



DEPARTMENT OF HEALTH & HUMAN SERVICES

National Institutes of Health
Freedom of Information Office
Building 31, Room 5B-35
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Bethesda, Maryland 20892-2107
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via Email: foia@sirillp.com

February 15, 2022

Aaron Siri, Esq.
Siri & Glimstad LLP
200 Park Avenue
Seventeenth Floor
New York, NY 10166

Re: NIH FOIA Case No. 54107; *ICAN v. National Institutes of Health*, No. 20-cv-01277

Dear Mr. Siri:

This is a partial response to Freedom of Information Act (FOIA) requests that are the subject of the Complaint filed in *ICAN v. National Institutes of Health*, No. 20-cv-01277. Your FOIA request, dated April 29, 2020, was received by the National Institutes of Health (NIH) on the same day.

You requested the following for the timeframe of November 1, 2019 through the date of the search for:

All emails sent or received by Barney Graham that include the term SARS-CoV, COVID, COVID-19 or coronavirus in any portion of the email, including the body, subject, metadata, sender line, or recipient line of the email, or any attachment to the email.

NIH has processed 300 pages responsive to your request 54107. Attached to this letter are 271 pages; NIH has sent the remaining 29 pages to the Department of Army and the Department of Health and Human Services for further review. NIH will provide a further response regarding the consulted material once the consultations are complete.

I have determined to withhold portions of the enclosed pages under FOIA exemptions (b)(4), (b)(5) and (b)(6). The information being withheld is protected from release pursuant to Exemptions 4, 5, and 6 of the FOIA, 5 U.S.C. § 552 (b)(4), (b)(5) and (b)(6); and sections 5.31 (d), (e) and (f) of the HHS FOIA Regulations, 45 CFR Part 5. Exemption 4 protects from disclosure trade secrets and commercial or financial information that is privileged and confidential. Exemption 5 permits the withholding of internal government records which are

pre-decisional and contain staff advice, opinion, and recommendations, as well as documents solicited and received by the President or his immediate White House advisers who have broad and significant responsibility for investigating and formulating the advice to be given to the President. Exemption 6 permits the withholding of privacy information, the release of which would constitute a clearly unwarranted invasion of personal privacy.

If you have any questions about this response, please contact AUSA Morrison, of the Department of Justice, at Kristina.Morrison@usdoj.gov.

Sincerely,

for Gorka Garcia-Malene
Freedom of Information Officer, NIH

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 22 Feb 2020 20:12:20 +0000
To: Mascola, John (NIH/VRC) [E]
Subject: RE: Notice of collaboration

I don't, but glad to help here [REDACTED] (b) (4)

Barney

From: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Saturday, February 22, 2020 3:07 PM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED]> (b) (6)
Subject: FW: Notice of collaboration

Hi Barney,

Do you know George?

From: Fauci, Anthony (NIH/NIAID) [E] [REDACTED] (b) (6)
Sent: Saturday, February 22, 2020 3:04 PM
To: Daley, George Q. [REDACTED] (b) (6)
Cc: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: RE: Notice of collaboration

George:

Thanks for the note and the heads-up. Sounds like a terrific opportunity. Please let me know if we can be of any help. I see that your folks are already connected to our VRC.

Best regards,

Tony

Anthony S. Fauci, MD
Director
National Institute of Allergy and Infectious Diseases
Building 31, Room 7A-03
31 Center Drive, MSC 2520

National Institutes of Health
Bethesda, MD 20892-2520
Phone: (b) (6)
FAX: (301) 496-4409
E-mail: (b) (6)

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From: Daley, George Q. (b) (6) >
Sent: Saturday, February 22, 2020 11:04 AM
To: Fauci, Anthony (NIH/NIAID) [E] (b) (6) >
Subject: Notice of collaboration

Dear Tony,

I wanted to give you a heads up on a collaboration we have launched with Dr Zhong Nanshan's group in Guangzhou regarding a response to SARS-CoV-2 (or whatever the latest nomenclature is), in the event you get media inquiries. I've attached a draft of the press release which we have scheduled for Monday, but we've heard that the Chinese side has already leaked the news and thus media accounts may follow.

We've mobilized a large number of local groups here in Boston (HMS, MIT, biotechs, etc) and have held frequent conference calls, and will hold a mini-symposium on March 2nd to plan a coordinated research program. We're about to launch a call for proposals. (b) (4)

(b) (4)

Some of the ID folks in our community have good contacts at VRC, and we're eager to communicate with you and VRC to remain abreast of each other's efforts.

Thought you should know...

George

George Q. Daley, MD, PhD
Dean, Harvard Medical School
Caroline Shields Walker Professor of Medicine
Professor of Biological Chemistry and Molecular Pharmacology

Office of the Dean, Gordon Hall
25 Shattuck Street, Boston MA 02115

Contact: [REDACTED] (b) (6)

[REDACTED] (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 27 Jan 2020 03:25:42 +0000
To: Bryan White
Cc: Robert Granieri;neilking
Subject: Re: Connecting Barney<<>>Rob

Thank you. I will be at [REDACTED] (b) (6) at 2pm.

Barney

Sent from my iPhone

On Jan 26, 2020, at 9:48 PM, Bryan White [REDACTED] (b) (6) wrote:

Dear Barney and Rob,

You've each gotten a brief intro from me (and Neil King) . You're both interested in marshalling know-how and resources to combat the spreading coronavirus. I think 2:00 PM Eastern work for you both. I'll let you take it from here some phone number are provided below (not sure if they are the best numbers).

Rob Granieri
[REDACTED] (b) (6)

Barney Graham
[REDACTED] (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 11 Mar 2020 20:56:48 +0000
To: Flattery, Siobhan
Cc: Hiatt, Nissa (NIH/VRC) [C]; Oplinger, Anne (NIH/NIAID) [E]
Subject: Re: Fox News Radio Interview Request

I'm sorry, but I am just seeing this. As you can imagine it is a little hectic here. There are some things I have to do now that can't wait, so could this happen on another day?

Barney

Sent from my iPhone

On Mar 11, 2020, at 3:20 PM, Flattery, Siobhan <Siobhan.Flattery@foxnews.com> wrote:

Hello Dr. Graham,

My name is Siobhan Flattery I work at FOX News Radio in New York. I'm reaching out to see if you are available today to join our syndicated daily news show and popular podcast the FOX News Rundown to discuss the latest on the coronavirus, the WHO declaring the coronavirus outbreak a pandemic?

This will be a 10-15 minute, pre-taped, audio interview with our host Jessica Rosenthal. We can do interviews today until 5:30PM ET via skype (preferably) or landline. **Please no cellphone.**

The FOX News Rundown is a news-based weekday syndicated morning show and podcast hosted by FOX News Radio anchors, that offers a deep dive into the major and controversial stories of the day. We strive to offer contrasting perspectives that may not be heard elsewhere while going far beyond the basic headlines. Each weekday The FOX News Rundown features insight from top newsmakers, along with FOX News reporters and contributors, plus a daily commentary on a significant issue of the day.

(You can listen to previous podcasts by visiting: (<https://radio.foxnews.com/podcast/fox-news-rundown/>)

Please email – or call me at the number below if you have any further questions or to confirm a time for **today's** interview.

Thank you in advance,
Siobhan

Siobhan {Sha-von} Flattery
FOX News Radio Podcast Coordinator

1211 Avenue of the Americas | New York, NY 10036

Phone: (b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 21 Apr 2020 10:55:21 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: help with awards

Thanks. I didn't realize (b) (6), (b) (5) helped with the (b) (5), (b) (6)

BG

Sent from my iPhone

On Apr 21, 2020, at 4:38 AM, Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6) wrote:

Good morning Dr. Graham, My replies are **in line** below.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (b) (6)

From: Barney Graham <(b) (6)>
Date: Monday, April 20, 2020 at 8:54 PM
To: Kizzmekia Corbett (b) (6)>
Subject: help with awards

Hi Kizzmekia,

I need to send an email like the following back to Sarah Austin. Could you look through and add other people where indicated?

Thanks,

Barney

(b) (6), (b) (5)



Barney S. Graham, MD, PhD
Senior Investigator
Deputy Director, Vaccine Research Center
Chief, Viral Pathogenesis Laboratory
National Institute of Allergy and Infectious Diseases, NIH
40 Convent Drive, MSC 3017
Bldg 40, Room 2502
Bethesda, MD 20892-3017
Phone: (b) (6)
URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 28 Feb 2020 13:53:39 +0000
To: 최장훈
Cc: 김성순; 최병선; 이주연; 이한샘; Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Stein, Judy (NIH/VRC) [C]; Bok, Karin (NIH/VRC) [E]
Subject: RE: 2019 Coronavirus probes request from Korea NIH

Dr. Choi,

We have been monitoring the situation in Korea and understand the urgency. I hope you and your colleagues are staying well.

We are also working as fast as we can on vaccine development and antibody discovery. We have reagents, but no (b) (4)

We will put the (b) (4) in the mail as soon as we can.

Best wishes,

Barney

From: (b) (6) On Behalf Of "???"
Sent: Friday, February 28, 2020 3:01 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Cc: "김성순" (b) (6); "최병선" (b) (6)>; "이주연" (b) (6); "이한샘" <(b) (6)>
Subject: 2019 Coronavirus probes request from Korea NIH

Dear Dr. Graham,

I'm Janghoon Choi visited VRC for a (b) (4) experiment with Lingshu in 2016.

I am wondering when I will receive the (b) (4) that Hanssem requested. The situation in Korea is very urgent so please understand the urgent needs.

The Simple Letter Agreement (SLA) was already sent to Judy.

Sincerely,

Janghoon

Janghoon Choi, Ph.D.

Staff Scientist

Div. Viral Diseases Research, Center for Infectious Diseases,
Korea National Institute of Health

187 Osongsaengmyeong2(i)-ro, Cheongju-si, Chungcheongbuk-do, Korea.

Tel: (b) (6) Fax: 82-43-719-8459

e-mail: (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 18 Feb 2020 11:47:40 +0000
To: Sallie Permar, M.D., Ph.D.
Subject: Re: Invitation: WHO Zika Virus Research & Development (R&D) Roadmap, Paris, France, from 19 to 20 March 2020
Attachments: image001.png

I was invited but will be at the Keystone meeting on Vaccinology. Not sure about the meeting. I think the next big step has to be [REDACTED] (b) (4).

BG

Sent from my iPhone

On Feb 18, 2020, at 6:37 AM, Sallie Permar, M.D., Ph.D. [REDACTED] (b) (6) > wrote:

Hi Barney – I was wondering if you will be attending this WHO meeting on Zika (in the midst of coronavirus!), I am trying to decide whether to attend

From: "ALAYET, Jihene" [REDACTED] (b) (6)
Date: Monday, February 17, 2020 at 11:44 AM
To: Sallie Permar <[REDACTED] (b) (6)>
Cc: "EMBAYE, Ruth" [REDACTED] (b) (6), "TEMU, Anaelia Siya" [REDACTED] (b) (6) >, Anje Mehr [REDACTED] (b) (6) >
Subject: Invitation: WHO Zika Virus Research & Development (R&D) Roadmap, Paris, France, from 19 to 20 March 2020

Dear Dr Permar,

We are pleased to send you attached your letter of invitation to attend **WHO Zika Virus Research & Development (R&D) Roadmap** to be held at Le Méridien Etoile Hotel in Paris, France from 19 to 20 March 2020.

Grateful if you could confirm your participation by returning duly filled and signed the Declaration of Interests for WHO Experts, at the latest by 21 February 2020.

Kindly note that a block booking has been made at the following hotel:

- Le Méridien Etoile
- Address: 81 Boulevard Gouvion Saint-Cyr, 75848 Cedex 17, Paris 75017 France
- Telephone: +33 1 40 68 34 34
- Website: <https://www.marriott.com/hotels/travel/parmd-le-m%C3%A9ridien-etoile/?scid=bb1a189a-fec3-4d19-a255-54ba596febe2>

Accommodation and breakfast for the duration of the meeting will be paid for by WHO.

You will receive a per diem to cover your meals, transportation and other incidental or miscellaneous expenses. Please fill out the attached supplier form with your bank details and send it back to me so that we could proceed with your per diem transfer.

Regarding your flight booking, we kindly ask you to make your flight reservation in economy seating, via the most economical route, by filling out all requested information in the below link for our WHO partner agency office stated below:

- Carlson Wagonlit Travel
- www.cwt-trip-order.com/cto/rest/obr/auth/standalone/sessionStartup/WHO Standalone-8365
(please copy/paste the link into your internet browser if you encounter problems when opening the link)
- Telephone: (4122) 791 40 71 (08H30-17H30 GVA time)
- Email: whoint.ch@contactcwt.com

Please also add Ms Jihene Alayet (b) (6), as the travel arranger. When making your reservations, please bear in mind that you should plan to arrive the day before the meeting starts (i.e., March 18) and depart with the first available flight after the end of the meeting. Kindly note that should you wish to upgrade your ticket, or change the airline or route, you may do so at your own expense, in accordance with WHO policy.

Kindly note that your ticket will be provided by WHO through this agency only. Any request to purchase your own ticket for reimbursement must receive prior approval by WHO, which will be given in exceptional circumstances only. Attached is the user guide to facilitate your flight booking.

Upon receipt of this letter, please verify with the nearest Embassy or consulate whether you are required to have a visa to enter France. If so, kindly let us know by sending me a copy of your passport. Following receipt of your email, WHO will provide you with a visa support letter, which you should present with your other visa documents.

Should you have any question, please do not hesitate to contact us.

Best regards,

Jihene Alayet

Logistics Assistant

World Health Organization

HQ/GCT Global Conference and Training Centre

Rue du développement-Cité El Khadra-1003

Tel: (b) (6)

Fax: + 216 71 15 56 79

Email: (b) (6)

<image001.png>

<Userguide CWT WHO travel.pdf>

<Supplier form.doc>

<DOI.DOCX>

<Invitation-Dr Sallie Permar.pdf>



From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 29 Apr 2020 12:23:22 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: Invitation: Scientific collaboration and support for your COVID-19 needs
Attachments: image001.png

I delete emails like this. I get several each day.

Barney

Sent from my iPhone

On Apr 29, 2020, at 7:45 AM, Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6) wrote:

Leaving this for you to respond to...

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

From: "Steve Martin" <Steve_Martin@waters.com>

Date: Monday, April 13, 2020 at 9:22:27 AM

To: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Graham, Barney (NIH/VRC) [E]" (b) (6)

Cc: "Betsy Baer" <Betsy_Baer@waters.com>, "Matthew Lauber" <Matthew_Lauber@waters.com>, "Selena Larkin" <Selena_Larkin@waters.com>, "Kelly Johnson" <Kelly_Johnson@waters.com>

Subject: Invitation: Scientific collaboration and support for your COVID-19 needs

Complimentary COVID-19 collaborative and analytical support from Waters

Dear Drs. Corbett and Graham,

Your work at the center of the COVID response to accelerate the development of a vaccine for SARS-CoV-2 is remarkable and hugely commendable. Your recent structural biology work is very insightful in terms of antigens and their developability. Noting this, we are reaching out to extend an offer of assistance and offer of new equipment to help you, your NIH labs, and partners quickly expedite analytical characterization of vaccine candidates. In addition to consultation, we would be honored to quickly deploy capabilities and training for glycan mapping, peptide mapping, and intact mass analysis. We also have calorimetry expertise that

could be of utility for formulation studies. Waters has a long history of assisting the global scientific community in times of need and with today's crisis, we believe that our staff's expertise and our toolsets could be supportive of your team's emerging COVID-19 initiatives.

Through our network of laboratories, scientists, and enabling local infrastructure, Waters has unique capabilities that groups like yours may leverage immediately for COVID-19 response and recovery. Waters' tools are broadly employed throughout the Pharmaceutical & Biotechnology Industry value chain, and by combining our resources with the front lines focused on the biology and treatments for the virus, we can together be more effective in progressing the pace of research and production.

We would like to extend an offer of complimentary help by deploying our newest analytical solutions and direct, real-time collaborative support from our scientists in the following areas – from discovery through development to lot release testing. A sampling of our offerings includes:

- *Regulatory-Compliant Chromatography-Mass Spectrometry*
- *Diverse Range of Column Chemistries and Novel Inert Hardware*
- *Advanced MS Techniques: Ion Mobility Spectrometry (IMS), Charge Detection MS (CDMS), Imaging, and Direct MS*
- *Advanced Chromatographic Techniques: Supercritical Fluid Chromatography (SFC) for process chemistry and Multidimensional LC-MS for protein binding assays*
- *Informatics: Specialized peak-picking algorithms and data management support*
- *Biophysical Stability and HOS : Differential Scanning Calorimetry (DSC) and Automated IR, Modulated Microfluidic Spectroscopy (MMS)*
- *Affinity and Kinetics: Isothermal Titration Calorimetry (ITC) and Grating-Coupled Interferometry (GCI)*
- *Automation: Lab Integration and Pipetting Robotics*
- *Wide Variety of Supporting Solutions: Workflow components and collaborative network partner solutions can be leveraged to your needs*

Our global leaders bring decades of experience and expertise across a broad range of techniques and applications:

- *Martin Gilar: Fundamental separation science*
- *Ying Qing Yu: Platform mass spectrometry methods for large molecules*
- *Tom Walter: Method development for small molecule LC*
- *Matt Lauber: Biochemistry, reagents and LC-MS*

- *Kevin Giles*: Mass spectrometry and ion mobility instrumentation
- *Hans Vissers*: Algorithms and data processing
 - *Eugene Ma* (RedShiftBio): Protein Secondary Structure analysis, IR
 - *Colette Quinn*: Biophysical stability and affinity, microcalorimetry
 - *Kaspar Cottier* (Creoptix): biomolecular interaction and kinetics, GCI
- *Supported by our worldwide team of scientists, engineers and support experts*

Please help us to help you address the critical research questions that will ultimately benefit the scientific community. Waters has mobilized our organization to enable us to immediately access our full range of capabilities in support of your COVID-19 programs. If your organization has established a COVID-19 Team, please feel free to forward this letter. You may contact me at any time to discuss and plan further as well as access our dedicated COVID-19 Scientific Collaboration site at <https://waterscorp.sharepoint.com/sites/Innovate>.

I hope you, your families and those with whom you work are safe and healthy.

Sincerely,

<image001.png>

Stephen A. Martin
VP Global Research
Waters Corporation
Milford, MA 01757 USA
Steve.Martin@Waters.com

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(b) (6)



From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 20 Mar 2020 22:42:40 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: Status of (b) (4), (b) (5) Assay... Please Comment

(b) (4), (b) (5)

BG

Sent from my iPhone

On Mar 20, 2020, at 6:25 PM, Corbett, Kizzmekia (NIH/VRC) [E]

(b) (6) > wrote:

(b) (4), (b) (5)

If so, please provide a POC.

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

From: "McDermott, Adrian (NIH/VRC) [E]" (b) (6)

Date: Friday, March 20, 2020 at 3:45:06 PM

To: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >

Cc: "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6), "Bok, Karin

(NIH/VRC) [E]" (b) (6) >, "Ruckwardt, Tracy (NIH/VRC) [E]"

(b) (6) >, "Narpala, Sandeep (NIH/VRC) [C]" < (b) (6),

"Graham, Barney (NIH/VRC) [E]" (b) (6) >, "Taylor, Alison (NIH/VRC) [C]"

(b) (6) >, "Stein, Judy (NIH/VRC) [C]" (b) (6) >, "O'Connell,

Sarah (NIH/VRC) [C]" (b) (6) >, "Shi, Wei (NIH/VRC) [E]"

< (b) (6) >, "Kong, Wing-Pui (NIH/VRC) [E]" (b) (6) >, "Kumar,

Azad (NIH/VRC) [E]" (b) (6).

Subject: Re: Status of (b) (4), (b) (5) Assay... Please Comment

No need for the (b) (4), (b) (5) - we got that.

If you have (b) (4), (b) (5) and folks can carry on with other COV stuff.

Adrian

Sent from my iPhone

On Mar 20, 2020, at 2:28 PM, Corbett, Kizzmekia (NIH/VRC) [E]

(b) (6) > wrote:

Hi all, if your name is beside the following (b) (4), (b) (5), please send me in a separate email the availability of

(b) (4), (b) (5)

I believe that Tracy is recruiting in Azad for (b) (4), (b) (5) here.

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

From: "McDermott, Adrian (NIH/VRC) [E]" (b) (6)

Date: Friday, March 20, 2020 at 2:22 PM

To: Kizzmekia Corbett (b) (6), "Kanekiyo, Masaru (NIH/VRC) [E]"

<(b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6)>, "Ruckwardt,

Tracy (NIH/VRC) [E]" (b) (6)

Cc: "Narpala, Sandeep (NIH/VRC) [C]" (b) (6), Barney Graham

(b) (6), "Taylor, Alison (NIH/VRC) [C]" (b) (6)>, "Stein, Judy

(NIH/VRC) [C]" (b) (6) "O'Connell, Sarah (NIH/VRC) [C]"

(b) (6) >

Subject: Re: (b) (4), (b) (5) status?

OK – Kizzie you can discuss with Sarah et al at the lab

Still need to know availability of the (b) (4), (b) (5)



From: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)
Date: Friday, March 20, 2020 at 2:11 PM
To: "McDermott, Adrian (NIH/VRC) [E]" (b) (6)>, "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6)>, "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6)>
Cc: "Narpala, Sandeep (NIH/VRC) [C]" (b) (6), Barney Graham (b) (6)>, "Taylor, Alison (NIH/VRC) [C]" (b) (6), "Stein, Judy (NIH/VRC) [C]" (b) (6), "O'Connell, Sarah (NIH/VRC) [C]" (b) (6)>
Subject: Re: (b) (4), (b) (5) status?

List as I see it below

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)

Fax: (301) 480-2771

From: "McDermott, Adrian (NIH/VRC) [E]" <(b) (6)>
Date: Friday, March 20, 2020 at 2:00 PM
To: "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6)>, Kizzmekia Corbett (b) (6), "Bok, Karin (NIH/VRC) [E]" (b) (6), "Ruckwardt, Tracy (NIH/VRC) [E]" <(b) (6)>
Cc: "Narpala, Sandeep (NIH/VRC) [C]" (b) (6), Barney Graham <(b) (6)>, "Taylor, Alison (NIH/VRC) [C]" (b) (6)>, "Stein, Judy (NIH/VRC) [C]" (b) (6)>, "O'Connell, Sarah (NIH/VRC) [C]" (b) (6)
Subject: Re: (b) (4), (b) (5) status?

Barney, Masaru and Kizzie,

Absolutely.....That is not the final.....copy errors in there from a spreadsheet I was given and like the (b) (4), (b) (5)

We need to decide ASAP!!

(b) (4), (b) (5)

From: "Kanekiyo, Masaru (NIH/VRC) [E]" <(b) (6)>
Date: Friday, March 20, 2020 at 1:52 PM
To: "McDermott, Adrian (NIH/VRC) [E]" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Bok, Karin (NIH/VRC) [E]" (b) (6)>
Cc: "Narpala, Sandeep (NIH/VRC) [C]" (b) (6), Barney Graham (b) (6), "Taylor, Alison (NIH/VRC) [C]" (b) (6)>, "Stein, Judy (NIH/VRC) [C]" (b) (6), "O'Connell, Sarah (NIH/VRC) [C]" (b) (6)
Subject: Re: (b) (4), (b) (5) status?

Any particular reason for having

(b) (4), (b) (5)
(b) (4), (b) (5)

Just my thoughts.

Masaru

From: "McDermott, Adrian (NIH/VRC) [E]" (b) (6) >

Date: Friday, March 20, 2020 at 11:53 AM

To: Kizzmekia Corbett (b) (6), "Bok, Karin (NIH/VRC) [E]"
(b) (6) >

Cc: "Narpala, Sandeep (NIH/VRC) [C]" <(b) (6)>, Barney Graham
(b) (6), "Taylor, Alison (NIH/VRC) [C]" (b) (6) >, Judith Stein
(b) (6), "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6) >,
"O'Connell, Sarah (NIH/VRC) [C]" (b) (6) >

Subject: (b) (4), (b) (5) status?

Kizzie et al,

Heard you on the meeting this morning....

(b) (4), (b) (5)
(b) (4), (b) (5)

We can do this quickly

Thanks
Axdrrian

Adrian B McDermott, Ph.D.
Chief, Vaccine Immunology Program
Vaccine Research Center, NIAID, NIH
40 Convent Dr., Room 3508
Bethesda, MD 20892-3015
Phone (office): (b) (6)
Phone (Cell): (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 9 Mar 2020 01:03:43 +0000
To: Gall, Jason (NIH/VRC) [C]; Mascola, John (NIH/VRC) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Korea Tracking Number Shipment-FedEx Shipment 137764627780 Notification

I'm going to work Kizzy on that in the morning.

BG

From: Gall, Jason (NIH/VRC) [C] (b) (6) >
Sent: Sunday, March 8, 2020 9:00 PM
To: Mascola, John (NIH/VRC) [E] (b) (6)
Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Re: Korea Tracking Number Shipment-FedEx Shipment 137764627780 Notification

Thanks John, It looks like this (b) (5), (b) (4)
(b) (5), (b) (4) I'll ask Liz to work with Kizzmekia and Barney on a final (b) (5), (b) (4) for development.
Best,
Jason

Sent from my iPhone

On Mar 8, 2020, at 1:47 PM, Mascola, John (NIH/VRC) [E] (b) (6) > wrote:

Hi Jason and all,

Lets make sure we use our standard double verification of any (b) (5), (b) (4) to be made by VPP.

Thanks,
John

From: Gall, Jason (NIH/VRC) [C] <(b) (6) >
Sent: Saturday, March 7, 2020 10:53 AM
To: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6) >
Cc: Mascola, John (NIH/VRC) [E] (b) (6) >; Graham, Barney (NIH/VRC) [E]

(b) (6)>

Subject: Re: Korea Tracking Number Shipment-FedEx Shipment 137764627780 Notification

Good morning Kizzmekia,
Received, thank you.
Jason

From: "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>

Date: Friday, March 6, 2020 at 6:46 PM

To: "Gall, Jason (NIH/VRC) [C]" (b) (6)

Cc: "Mascola, John (NIH/VRC) [E]" (b) (6)>, "Graham, Barney (NIH/VRC) [E]" (b) (6)>

Subject: Fwd: Korea Tracking Number Shipment-FedEx Shipment 137764627780 Notification

Jason, I'm mobile but I wanted you to have the (b) (5), (b) (6) now. See attached zip, & disregard the additional items unless of course you are interested.

Sent from the mobile device of:
Kizzmekia S. Corbett, PhD
Senior Research Fellow
coVip Scientific Lead
VRC | NIAID | NIH
(b) (6)

From: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>

Date: Friday, March 6, 2020 at 1:36:52 PM

To: "최장훈" <>

Cc: "김성순" <>, "최병선" <>, "이주연" <>, "이한샘" <>, "Stein, Judy (NIH/VRC) [C]" <jstein@mail.nih.gov>

Subject: Re: Korea Tracking Number Shipment-FedEx Shipment 137764627780 Notification

Please find all the info you need attached.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)

Personal: (b) (6)
Fax: (301) 480-2771

From: <(b) (6)> on behalf of 최장훈 (b) (6)
Date: Friday, March 6, 2020 at 12:53 AM
To: Kizzmekia Corbett (b) (6)>
Cc: ""김성순"" (b) (6)>, ""최병선"" (b) (6)>, ""이주연""
<(b) (6)>, ""이한샘"" <(b) (6)
Subject: RE: FW: Korea Tracking Number Shipment-FedEx Shipment (b) (6)
Notification

Dear Dr. Corbett,

Thank you for updating shipment. Would you please send me the (b) (4)

Jagnhoon

----- 원본 메일 -----

보낸사람 : "Corbett, Kizzmekia (NIH/VRC)" <(b) (6)>
받는사람 : (b) (6)
받은날짜 : 2020년 3월 6일(금) 08:07:24
제목 : FW: Korea Tracking Number Shipment-FedEx Shipment (b) (6) Notification

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: "Abiona, Olubukola (NIH/VRC) [F]" (b) (6)
Date: Thursday, March 5, 2020 at 4:22 PM
To: Kizzmekia Corbett (b) (6)>
Subject: Korea Tracking Number Shipment-FedEx Shipment (b) (6) Notification

From: TrackingUpdates@fedex.com <TrackingUpdates@fedex.com>
Sent: Thursday, March 5, 2020 4:17 PM
To: Abiona, Olubukola (NIH/VRC) [F] (b) (6)
Subject: FedEx Shipment (b) (6) Notification

<image004.jpg>	
>	This shipment is scheduled to be sent on 03/05/2020.
	The delivery date may be updated when FedEx receives the package.
	See "Preparing for Delivery" for helpful tips
	Tracking # (b) (6)

Anticipated ship date: Thu, 3/5/2020	Estimated delivery date: Mon, 3/9/2020 by 6:00 pm
FREIGHT FORWARDING SECTION NIH/TRANSPORTATION MANAGEMENT DIV. BETHESDA, MD 20892	JANGHOON CHOI, PHD DIV OF VIRAL DISEASES RESE, KOREA
US	CHEONGCHE-DO, REP OF KOREA
	NTL INST OF HLTH, 187 OSONGSAEN CHEONGJU-SI HEUNGDEOK-GU, 28159 KR

<image005.jpg>
Initiated

Shipment Facts

Tracking number:	(b) (6)
Reference:	(b) (6)
Service type:	International Priority®
Packaging type:	Your Packaging
Number of pieces:	1
Weight:	6.00 lb.
Special handling/Services:	Deliver Weekday Dry Ice

<image006.jpg>

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 3:16 PM CST on 03/05/2020.

All weights are estimated.

The shipment is scheduled for delivery on or before the scheduled delivery displayed above. FedEx does not determine money-back guarantee or delay claim requests based on the scheduled delivery. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx customer support representative.

To track the latest status of your shipment, click on the tracking number above.

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Thank you for your business.



From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 17 Mar 2020 19:23:29 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]; Oplinger, Anne (NIH/NIAID) [E]
Cc: NIAID COGCORE; NIAID Media Inquiries; Hiatt, Nissa (NIH/VRC) [C]; Harris, Christina (NIH/NIAID) [E]
Subject: RE: Interview Request: Novel Coronavirus (Week of March 16)

Thanks.

BG

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Sent: Tuesday, March 17, 2020 9:46 AM
To: Oplinger, Anne (NIH/NIAID) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>
Cc: NIAID COGCORE <COGCORE@mail.nih.gov>; NIAID Media Inquiries <mediainquiries@niaid.nih.gov>; Hiatt, Nissa (NIH/VRC) [C] (b) (6); Harris, Christina (NIH/NIAID) [E] (b) (6)
Subject: Re: Interview Request: Novel Coronavirus (Week of March 16)

Good morning,
I can do this.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: "Oplinger, Anne (NIH/NIAID) [E]" <(b) (6)>
Date: Tuesday, March 17, 2020 at 8:22 AM
To: Barney Graham (b) (6)>, Kizzmekia Corbett (b) (6)>
Cc: NIAID COGCORE <COGCORE@mail.nih.gov>, NIAID Media Inquiries

<mediainquiries@niaid.nih.gov>, "Hiatt, Nissa (NIH/VRC) [C]" (b) (6)>, "Harris, Christina (NIH/NIAID) [E]" (b) (6)>

Subject: Interview Request: Novel Coronavirus (Week of March 16)

Reporter: Jeannie Baumann

Organization: Bloomberg

Phone #(s): 703-341-5722 (direct) (b) (6) (cell) jbaumann@bloomberglaw.com

Subject: Coronavirus, launch of mRNA vax trial

Deadline: Wed. March 18

Spokesperson: TBD

Expected place of publication (print, online, broadcast): print, online

Expected date of publication/airing: unknown

Expected prominence (e.g. front page, Sunday, evening/morning show, etc.): standard news article

Key messages/talking points: NIAID VRC scientists will describe how work on a candidate vaccine for COVID-19 was able to advance so rapidly from info about genetic sequence of virus to beginning of first clinical trial for mRNA-1273, candidate vaccine.

Add'l Info:

Note from Reporter: On Mar 16, 2020, at 7:26 PM, Baumann, Jeannie <jbaumann@bloomberglaw.com> wrote: Hi Jen, Congrats on getting this off your plate. I'm sure the work is still crazy though. I wanted to do a follow-up story either for Tuesday or Wednesday on just how everyone was able to move to a clinical trial so quickly. What was different? And can this be the norm going forward? Or is this an exception?

Hi Barney and Kizzmekia,

Would one of you be available for a short phone conversation with Jeannie Baumann today or tomorrow as outlined above? She is a good reporter and this outlet is fairly high priority.

Please let me know which of you would prefer to handle this and I will seek clearance. Thanks.

Anne A. Oplinger

Office of Communications

National Institute of Allergy and Infectious Diseases

National Institutes of Health

Bldg 31, Rm. 7A17D

Media Line: (301) 402-1663

General Line: (301) 594-3961

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 28 Mar 2020 17:42:25 +0000
To: Stein, Judy (NIH/VRC) [C]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]
Subject: Re: AZ/NIAID MTA: Coronavirus

... or Jessica Price.

BG

Sent from my iPhone

On Mar 28, 2020, at 1:37 PM, Stein, Judy (NIH/VRC) [C] (b) (6) > wrote:

Hi Kizzmekia,
FYI – it looks like Nicole would be a reasonable contact, but please let me know if she is not.
Thanks,
Judy

From: Kallewaard-LeLay, Nicole (b) (6) >
Sent: Monday, March 9, 2020 9:20 AM
To: Stein, Judy (NIH/VRC) [C] (b) (6); Price, Jessica (b) (6) >
Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6) >; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) Bok, Karin (NIH/VRC) [E] (b) (6) >; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: RE: AZ/NIAID MTA: Coronavirus

Hi All- Thank you all for routing this contract as quickly as possible. Now that the contract is legally signed, whom can I arrange with to ship the (b) (4) and get the relevant associated SOPs? Also, I know that the science is quickly moving- have you identified any (b) (4) that are promising yet? Let us know if you have anything that you would like to start on the (b) (4) (b) (4):

Thanks
Nicole

From: Stein, Judy (NIH/VRC) [C] < (b) (6) >
Sent: Wednesday, February 19, 2020 4:27 PM
To: Price, Jessica (b) (6) >
Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6); Kallewaard-LeLay, Nicole (b) (6)

(b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6)>

Subject: RE: AZ/NIAID MTA: Coronavirus

CAUTION: This email originated outside AstraZeneca. Do not open the attachment(s) unless you recognize the sender and know the content is safe.

Hi Jessica,

I have attached the RCA merged with the research plan (Appendix A). Can this please be reviewed and the highlighted sections completed. If there are any comments/requested edits, please send me a redline.

Thanks very much.

Judy

(b) (6)

From: Price, Jessica (b) (6)

Sent: Wednesday, February 19, 2020 10:29 AM

To: Stein, Judy (NIH/VRC) [C] <(b) (6)>

Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6); Kallewaard-LeLay, Nicole (b) (6)

(b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Bok, Karin

(NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>

Subject: RE: AZ/NIAID MTA: Coronavirus

Thanks Judy!

Perhaps (b) (4)

Thanks,

Jessica

From: Stein, Judy (NIH/VRC) [C] (b) (6)

Sent: Wednesday, February 19, 2020 7:54 AM

To: Price, Jessica (b) (6)>

Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6); Kallewaard-LeLay, Nicole <(b) (6)>

(b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Bok, Karin

(NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>

Subject: RE: AZ/NIAID MTA: Coronavirus

Hi Jessica,

Thanks very much.

Regarding (b) (4)

Once everybody has reviewed these edits, I will merge this with our RCA template, Amy will review and we will send this to you for your review.

Judy

(b) (6)

From: Price, Jessica [REDACTED] (b) (6)
Sent: Tuesday, February 18, 2020 5:12 PM
To: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)
Cc: Petrik, Amy (NIH/NIAID) [E] [REDACTED] (b) (6); Kallewaard-LeLay, Nicole [REDACTED] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6); Bok, Karin (NIH/VRC) [E] <[REDACTED] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)>
Subject: RE: AZ/NIAID MTA: Coronavirus

Thanks Judy!
A couple of quick comments/clarifications.

Thanks,
Jessica

From: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)
Sent: Tuesday, February 18, 2020 4:30 PM
To: Price, Jessica [REDACTED] (b) (6)
Cc: Petrik, Amy (NIH/NIAID) [E] [REDACTED] (b) (6); Kallewaard-LeLay, Nicole [REDACTED] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6); Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)>
Subject: RE: AZ/NIAID MTA: Coronavirus

CAUTION: This email originated outside AstraZeneca. Do not open the attachment(s) unless you recognize the sender and know the content is safe.

Hi Jessica,
I have attached a first draft of a research plan for this RCA. Can you please circulate for review on your side and provide your edits.
Thanks very much.
Judy

Judy Stein, MBA, MSPH [C]
Strategic Planning and Development
Vaccine Research Center, NIAID, NIH
Tel: [REDACTED] (b) (6)

From: Bok, Karin (NIH/VRC) [E] <[REDACTED] (b) (6)>
Sent: Monday, February 10, 2020 10:13 AM
To: Price, Jessica [REDACTED] (b) (6)>
Cc: Petrik, Amy (NIH/NIAID) [E] [REDACTED] (b) (6); Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6); Kallewaard-LeLay, Nicole [REDACTED] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: FW: AZ/NIAID MTA: Coronavirus

Hi Jessica,

This is a great start. We are currently evaluating the [REDACTED] (b) (4)

[REDACTED] so the scope of the collaboration will depend on these results as well.

I am connecting you with our lead Coronavirus scientists, Dr. Morabito, and Dr. Corbett, who will propose VRC's side of the collaboration.

Thank you!

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: [REDACTED] (b) (6) | mobile: [REDACTED] (b) (6) | email [REDACTED] (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: "Price, Jessica" [REDACTED] (b) (6) >

Date: Friday, February 7, 2020 at 5:14 PM

To: Karin Bok [REDACTED] (b) (6), "Kallewaard-LeLay, Nicole" [REDACTED] (b) (6)

Cc: "Petrik, Amy (NIH/NIAID) [E]" [REDACTED] (b) (6), "Stein, Judy (NIH/VRC) [C]" [REDACTED] (b) (6)

Subject: AZ/NIAID MTA: Coronavirus

Dear Karin and Team,

For reference I'm attaching the slides that we discussed at our meeting on Tuesday.

I would propose perhaps breaking this into a few steps:

[REDACTED] (b) (4)

(b) (4)

Thoughts?

Happy to discuss any of the thoughts above.

Thanks,
Jessica

From: Price, Jessica

Sent: Friday, February 7, 2020 4:48 PM

To: Bok, Karin (NIH/VRC) [E] (b) (6); Kallewaard-LeLay, Nicole <(b) (6)>

Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6)

Subject: RE: NIAID_MedImmune MTA May 222015_CW455390_FE Ebola abs Sullivan.pdf

Hi All,

Partially signed MTA is attached.

Once completed, can you also send me a final signed copy for our records?

I will respond with a separate thread to this group as we discuss the coronavirus items.

Thanks,
Jessica

From: Bok, Karin (NIH/VRC) [E] (b) (6)

Sent: Friday, February 7, 2020 10:14 AM

To: Price, Jessica <(b) (6)>; Kallewaard-LeLay, Nicole <(b) (6)>

Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6)

Subject: Re: NIAID_MedImmune MTA May 222015_CW455390_FE Ebola abs Sullivan.pdf

Jessica,

This is great. We can go ahead and sign the MTA, thank you very much for making this happen!

On another subject-do you or any of your colleagues happen to have minutes from Monday's meeting?

It would be helpful to us, especially if we will be discussing an RCA. I just don't want to forget anything that was proposed.

Would it be possible to have a brief summary of what AZ is proposing from your end during a coronavirus collaboration? We can add our end of the contribution (b) (4)

Thanks!

Karin.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health

phone: (b) (6) | mobile: (b) (6) | email: (b) (6)
<https://www.niaid.nih.gov/about/vrc>

(b) (4)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 20 Apr 2020 13:36:41 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]; Stein, Judy (NIH/VRC) [C]; Alvarado, Gabriela (NIH/VRC) [C]; Morabito, Kaitlyn (NIH/VRC) [E]
Cc: Bok, Karin (NIH/VRC) [E]; Carlton, Kevin (NIH/VRC) [E]
Subject: RE: Follow up call with technical teams on [REDACTED] (b) (4)
COVID19

As Judy says, [REDACTED] (b) (4), (b) (5)

BG

From: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Monday, April 20, 2020 8:04 AM
To: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] [REDACTED] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6)>; Carlton, Kevin (NIH/VRC) [E] <[REDACTED] (b) (6)>
Subject: Re: Follow up call with technical teams on [REDACTED] (b) (4) COVID19

[REDACTED] (b) (4), (b) (5)

I'm kidding... kinda.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: [REDACTED] (b) (6)
Personal: [REDACTED] (b) (6)
Fax: (301) 480-2771

From: "Stein, Judy (NIH/VRC) [C]" [REDACTED] (b) (6)
Date: Monday, April 20, 2020 at 8:01 AM
To: Kizzmekia Corbett [REDACTED] (b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" [REDACTED] (b) (6), Kaitlyn Morabito [REDACTED] (b) (6)

Cc: Barney Graham (b) (6), "Bok, Karin (NIH/VRC) [E]" (b) (6)
Kevin Carlton (b) (6)
Subject: RE: Follow up call with technical teams on (b) (4) COVID19

Hi Kizzmekia,

(b) (4), (b) (5)

Thanks,

Judy

From: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>
Sent: Sunday, April 19, 2020 8:32 PM
To: Alvarado, Gabriela (NIH/VRC) [C] <(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Stein, Judy (NIH/VRC) [C] <(b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] <(b) (6)>; Bok, Karin (NIH/VRC) [E] <(b) (6)>; Carlton, Kevin (NIH/VRC) [E] <(b) (6)>
Subject: Re: Follow up call with technical teams on (b) (4) COVID19

Gabi, have we (b) (4), (b) (5)

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

From: "Alvarado, Gabriela (NIH/VRC) [C]" <(b) (6)>
Date: Sunday, April 19, 2020 at 8:14 PM
To: (b) (4), (b) (6)>, Kaitlyn Morabito <(b) (6)>, "Stein, Judy (NIH/VRC) [C]" <(b) (6)>
Cc: (b) (4), (b) (6) Barney Graham <(b) (6)>, "Bok, Karin (NIH/VRC) [E]" <(b) (6)>, Kevin Carlton <(b) (6)>, Kizzmekia Corbett <(b) (6)>
Subject: Re: Follow up call with technical teams on (b) (4) COVID19

Hello (b) (4),

We look forward to our call with you and your team tomorrow morning.

(b) (4)

(b) (4)

Let me know if you have any questions.

Thanks,
Gaby

--

Gabriela S. Alvarado, Ph.D.
Scientific Program Manager, Vaccine Development
Viral Pathogenesis Laboratory, Vaccine Research Center
National Institute of Allergy and Infectious Diseases, NIH
Bldg. 40, Rm. 2508
40 Convent Drive
Bethesda, MD 20892

(b) (6)

From: (b) (4), (b) (6)

Date: Monday, April 13, 2020 at 1:14 PM

To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6) >

Cc: (b) (4), (b) (6) >, "Graham, Barney (NIH/VRC) [E]"

(b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6),
"Bok, Karin (NIH/VRC) [E]" (b) (6)>, "Carlton, Kevin (NIH/VRC) [E]"
(b) (6) "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>
Subject: RE: Follow up call with technical teams on (b) (4) COVID19

Thanks so much, Kaitlyn! We will send out the possible time slots for the call shortly.

(b) (4)

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Sent: Monday, April 13, 2020 1:07 PM
To: (b) (4), (b) (6)>
Cc: (b) (4), (b) (6)>; Graham, Barney (NIH/VRC) [E]
(b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6)>; Bok, Karin
(NIH/VRC) [E] (b) (6) Carlton, Kevin (NIH/VRC) [E] (b) (6) Corbett,
Kizzmekia (NIH/VRC) [E] (b) (6)>
Subject: Re: Follow up call with technical teams on (b) (4) COVID19

EXTERNAL

(b) (4)

Yes, it was good to connect again. I'm ccing a few additional colleagues, including Gabriela Alvarado, who will take the lead on organizing the (b) (4) for this effort.

Best,
Kaitlyn

From: (b) (6), (b) (4)
Date: Monday, April 13, 2020 at 1:04 PM
To: Kaitlyn Morabito (b) (6)>
Cc: (b) (6), (b) (4) Barney Graham
(b) (6)
Subject: Follow up call with technical teams on (b) (4) COVID19

Dear Kaitlyn,

It was great to "see" you on the call last Friday for the potential (b) (4)
(b) (4)

(b) (4): Please let me know the availability of your side so we can send the meeting invite accordingly.



From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 29 Jan 2020 15:36:40 +0000
To: Jason McLellan
Subject: RE: Wuhan coronavirus

Get a fitbit. It will train you to (b) (6) Maybe I'll send you one for your birthday.

BG

From: Jason McLellan (b) (6) >
Sent: Wednesday, January 29, 2020 10:28 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: RE: Wuhan coronavirus

Good advice. (b) (6)

(I think).

From: Graham, Barney (NIH/VRC) [E] (b) (6) >
Sent: Wednesday, January 29, 2020 9:24 AM
To: Jason McLellan (b) (6)
Subject: RE: Wuhan coronavirus

Don't let the (b) (6).

BG

From: Jason McLellan (b) (6) >
Sent: Wednesday, January 29, 2020 10:18 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: RE: Wuhan coronavirus

Thanks! (b) (6)
Jason

From: Graham, Barney (NIH/VRC) [E] (b) (6) >
Sent: Wednesday, January 29, 2020 12:56 AM
To: Jason McLellan <(b) (6)>
Subject: Re: Wuhan coronavirus

... and (b) (6)

BG

Sent from my iPhone

On Jan 29, 2020, at 7:41 AM, Graham, Barney (NIH/VRC) [E] <(b) (6)> wrote:

FYI. I told Jon we were working closely with you just like we have been since he wrote that first article about the back story of RSV F in 2013. Looks like he did not follow up on that.

BG

Sent from my iPhone

Begin forwarded message:

From: "Hiatt, Nissa (NIH/VRC) [C]" (b) (6)>
Date: January 28, 2020 at 5:05:52 PM GMT+1
To: "Graham, Barney (NIH/VRC) [E]" (b) (6)>
Cc: "Prince, Tasheema (NIH/VRC) [C]" (b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6), "Bok, Karin (NIH/VRC) [E]" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)
Subject: RE: Wuhan coronavirus

Hi Barney,

Here is Jon Cohen's piece in Science with your quotes:
<https://www.sciencemag.org/news/2020/01/scientists-are-moving-record-speed-create-new-coronavirus-vaccines-they-may-come-too> from this morning's NIH news round up.

Best,
Nissa

Nissa Hiatt
Communications
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg 40, Room 1107
Bethesda, MD 20892
(b) (6)

-----Original Message-----

From: Hiatt, Nissa (NIH/VRC) [C]
Sent: Wednesday, January 22, 2020 3:44 PM

To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Cc: Routh, Jennifer (NIH/NIAID) [E] (b) (6)>; Prince, Tasheema (NIH/VRC) [C]
(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Bok, Karin
(NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Subject: Re: Wuhan coronavirus

Hi Jen,

Thanks for the go ahead in person for Barney to talk to Jon Cohen.

Dr. Graham, please keep us posted how the conversation goes.

Best,
Nissa

Sent from my iPhone

On Jan 22, 2020, at 2:17 PM, Graham, Barney (NIH/VRC) [E] (b) (6)> wrote:

Hi Jen/Nissa,

FYI.

BG

-----Original Message-----

From: Jon Cohen <jcohen@aaas.org>
Sent: Wednesday, January 22, 2020 1:12 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Cc: Fauci, Anthony (NIH/NIAID) [E] (b) (6)
Subject: Re: Wuhan coronavirus

Hi Barney and Tony,

I'm working on a story about potential drugs and vaccines against coronaviruses. There's a WHO press conference about the PHEIC at 2pm East Coast. Could we speak after 4pm East Coast? I'm interested in speaking with each of you separately if possible.

Thanks,

Jon

On Jan 10, 2020, at 2:15 PM, Graham, Barney (NIH/VRC) [E] (b) (6)> wrote:

Hi Jon,

We have requested sequences and NIAID is working through WHO and diplomatic channels to obtain virus and more information. People are working on this from both ends.

Best wishes,

Barney

-----Original Message-----

From: Jon Cohen <jcohen@aaas.org>

Sent: Friday, January 10, 2020 4:33 PM

To: Graham, Barney (NIH/VRC) [E] (b) (6); Fauci, Anthony (NIH/NIAID) [E]
(b) (6)

Subject: Wuhan coronavirus

Hi Barney and Tony,

Has the NIH requested the Wuhan coronavirus sequence from China?

If so, when, and what has been the response?

Thanks,

Jon

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 30 Mar 2020 13:52:50 +0000
To: Stein, Judy (NIH/VRC) [C]
Subject: Re: [REDACTED] (b) (4)

Agree.

BG

Sent from my iPhone

On Mar 30, 2020, at 8:41 AM, Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)> wrote:

Hi Barney,
I just want to check to see if the outcome is that we will send the [REDACTED] (b) (4) materials. If so, I will put together a hMTA.
Thanks
Judy

From: Sagar, Manish <[REDACTED] (b) (6)>
Sent: Sunday, March 29, 2020 11:48 AM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Cc: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)
Subject: RE: [REDACTED] (b) (4)

Dear Barney,

We plan on [REDACTED] (b) (4)
[REDACTED] (b) (4)

Thanks

Manish

From: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Sunday, March 29, 2020 11:29 AM
To: Sagar, Manish <[REDACTED] (b) (6)>

Cc: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>

Subject: Re: [REDACTED] (b) (4)

CAUTION: External email. Do not click links or open attachments unless you recognize the sender and know the content is safe.

[REDACTED] (b) (4)

Barney

Sent from my iPhone

On Mar 28, 2020, at 3:40 PM, Sagar, Manish [REDACTED] (b) (6) wrote:

Dear Barney,

Thank you for your reply.

[REDACTED] (b) (4)

We would still be interested in the samples if they are available.

Thank you

Best,

Manish

From: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)

Sent: Saturday, March 28, 2020 3:25 PM

To: Sagar, Manish [REDACTED] (b) (6)>

Cc: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>

Subject: RE: [REDACTED] (b) (4)

CAUTION: External email. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Dr. Sagar,

Sorry for delayed response. [REDACTED] (b) (4)

[REDACTED] I have copied Judy Stein for initiating paperwork, and Drs. Grace Chen and Julie Ledgerwood for access to the clinical samples.

Take care,

Barney

From: Sagar, Manish <[REDACTED] (b) (6)>

Sent: Thursday, March 19, 2020 12:15 PM

To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>

Subject: [REDACTED] (b) (4)

Dear Dr. Graham,

[REDACTED] (b) (4)

I am happy to fill out administrative paperwork as necessary.

Thanks

Manish

Manish Sagar, MD
Boston University, School of Medicine
650 Albany Street, Room 647
Boston, MA 02118

[REDACTED] (b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 24 Apr 2020 20:41:48 +0000
To: Jon Cohen
Subject: RE: RSV monoclonal

Hi Jon,

The MEDI8897 is not mine, but does bind to the epitope (site 0) we defined at the apex of the pre-F molecule.

I think Ibalizumab is now licensed for HIV treatment, so there are 4.

Seems like the mAbs for rabies and C. difficile toxin should be out, but they are not.

Based on my experience with RSV, the antibodies are more likely to work if give prior to infection. However, COVID-19 seems to cause disease in stages, so I think it is rational to try treating people in the early stages of disease to block progression. There may also be cases in immunocompromised patients where there is ongoing virus replication causing disease that could be treated with antibodies.

Barney

From: Jon Cohen <jcohen@aaas.org>
Sent: Tuesday, April 21, 2020 8:49 PM
To: Graham, Barney (NIH/VRC) [E] <bgraham@mail.nih.gov>
Subject: Re: RSV monoclonal

And I gather this is where your MAb is in development: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6808696/>

MEDI8897 Prevents Serious RSV Disease in Healthy Preterm Infants

[Mary Pamela Griffin](#), MD,¹ [Yuan Yuan](#), PhD,¹ [Therese Takas](#), BS,¹ [John DeVincenzo](#), MD,² [Joseph B Domachowske](#), MD,³ [Eric A Simoes](#), MBBS, DCH, MD,⁴ [Anis Khan](#), PhD,¹ [Mark T Esser](#), PhD,¹ [Filip Dubovsky](#), MD, MPH,¹ and [Tonya L Villafana](#), PhD, MPH¹

On Apr 21, 2020, at 3:58 PM, Jon Cohen <jcohen@aaas.org> wrote:

Barney,

I'm working on a story about monoclonals for COVID-19 and spoke with John Mascola.

I'd like to quote you on a simple detail. RSV and anthrax are the only infectious diseases that I'm aware of with licensed MABs.

You have had success with MAb against RSV that look better than Palivizumab, which has limits. Where are those in clinical development?

Has your work with RSV MAb influenced your enthusiasm—and the enthusiasm of the field at large—about the prospect for effective COVID-19 MAb?

Thanks,

Jon

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Jan 2020 16:40:56 +0000
To: Mascola, John (NIH/VRC) [E]
Cc: Fauci, Anthony (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]
Subject: Re: Follow up [Coronavirus infected subject]

I spoke with people in diagnostics group.

(b) (5)

(b) (5)

(Sorry, wrote this last night but stuck in outbox)

BG

Sent from my iPhone

On Jan 22, 2020, at 8:39 PM, Mascola, John (NIH/VRC) [E] (b) (6) wrote:

Tony,

The email below indicates that Dan Wattendorf from BMGF is

(b) (5), (b) (6)

(b) (5), (b) (6)

Barney spoke with CDC staff on this topic - Barney can summarize his call.

John

From: Carl Hansen (b) (6)

Sent: Wednesday, January 22, 2020 7:47 AM

To: Graham, Barney (NIH/VRC) [E] <(b) (6)>; Mascola, John (NIH/VRC) [E]

(b) (6); Sherie Duncan

(b) (6) >

Subject: Fwd: Follow up

FYI below. Dan Wattendorf at Gates Foundation can access (b) (4)

(b) (4)

Kudos to Ester for The excellent suggestion that I ask him!

Carl

Sent from my iPhone

Begin forwarded message:

From: Dan Wattendorf (b) (6) >

Date: January 21, 2020 at 9:42:27 PM PST

To: Carl Hansen (b) (6)

Subject: Follow up

(b) (4)

Get [Outlook for iOS](#)

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 31 Mar 2020 13:08:22 +0000
To: Breman, Joel (NIH/FIC) [V]
Cc: Singh, Mantra (NIH/FIC) [E]
Subject: Re: [REDACTED] (b) (5)

Thanks. [REDACTED] (b) (6)

BG

Sent from my iPhone

On Mar 31, 2020, at 8:40 AM, Breman, Joel (NIH/FIC) [V] <[REDACTED] (b) (6)> wrote:

Fully understand, Barney.
Ebola outbreaks caused great alarm, chaos, fear, and panic before you and others developed a vaccine and specific treatment.
For smallpox, we already had a vaccine but no specific treatment for the loathsome disease. Less panic.
Isolation and case tracking important for above— and for Covid-19 when not overwhelmed with screening and treatment issues.
Good fortune on current work for vaccines against Covid-19.
Stay safe and sane.
Best, Joel

Sent from my iPhone

On Mar 30, 2020, at 9:06 PM, Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) wrote:

Hi Joel,

The sequence for the new coronavirus was released the day after you sent this email, and I have not come up for air yet.

Unfortunately, I don't think I'm going to be able to help with this. The vaccine effort is going relatively smoothly, but it is 24/7 and I can't do much more than coronavirus at this time.

I would enjoy hearing your thoughts on this pandemic. Smallpox must have had similar elements.

Take care,

Barney

From: Breman, Joel (NIH/FIC) [V] [REDACTED] (b) (6) >
Sent: Thursday, January 9, 2020 5:11 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Cc: Singh, Mantra (NIH/FIC) [E] [REDACTED] (b) (6) >
Subject: [REDACTED] (b) (5)

Barney,

Attached is first outline for [REDACTED] (b) (5) requested by Walter Orenstein.

Let me know what you think.

I would expect to have a first draft end February as I have a lot of travel ahead.

Best, Joel

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 5 Apr 2020 14:50:05 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: RNAscope - COVID-19 pathogenesis
Attachments: image002.png, image004.png

(b) (5)

BG

Sent from my iPhone

On Apr 5, 2020, at 2:49 AM, Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)> wrote:

Useful?

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

From: "David Remedios" <david.remedios@bio-techne.com>
Date: Thursday, April 2, 2020 at 2:50:57 PM
To: "Connie Zhang" <Connie.Zhang@bio-techne.com>, "David Remedios" <david.remedios@bio-techne.com>
Subject: RNAscope - COVID-19 pathogenesis

Hi there,

Please pardon my unsolicited email, which I am sure is one of dozens that you are getting pushing products in relation to coronavirus. I hope that this will be of interest. We have proprietary RNA in situ hybridization assays (RNAscope) that are unique in being able to provide tissue-based analysis of SARS-CoV-2 infection in human and animal models. Our RNAscope SARS-CoV-2 probes, as well as probes for ACE2 and TMPRSS2 are being used by the U.S. CDC, many researchers in North America, China and Europe, as well as by companies working on vaccines and therapeutics.

Would detection of SARS-CoV-2 RNA in intact animal or human tissues be useful in your COVID-x19 related research, for example, antibody vaccine development?

RNAscope is the most sensitive and specific method available for detection of viral nucleic acids and endogenous mRNAs. We and others have demonstrated detection of single RNA molecules, as well as single HIV genome integration events. There are over 25,000 RNAscope probes in use. All have identical affinity and specificity for their intended targets, and are used for viral pathogen, animal and human RNA detection in clinical and preclinical FFPE tissues. Additional resources can be found here:

<https://acdbio.showpad.com/share/gjpX3SeIm5Bo87mqxfxTl>

We can provide either RNAscope products or CRO assay services to support your COVID studies. I hope that this information will be of interest. Please let us know if you would be interested in speaking about our assay platforms.

Thank you and Be safe!

Connie Zhang (connie.zhang@bio-techne.com)

David Remedios (david.remedios@bio-techne.com)

David Remedios

Sales Associate – USA (NY, NJ, NIH, MD, DC, DE, VA, WV) and Eastern Canada
Genomics - ACD

Mobile: (b) (6)

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<image002.png>

<image004.png>

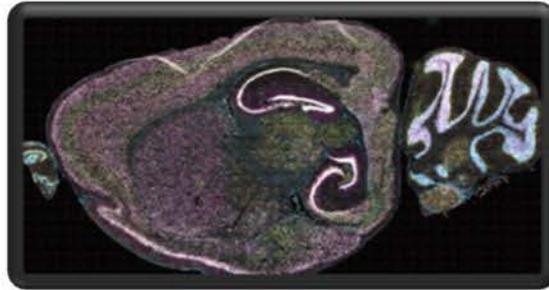
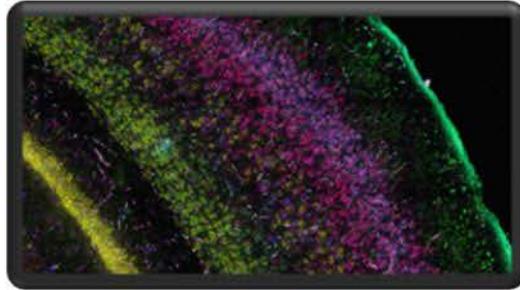
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<image001.png>

<image003.png>



From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 16 Mar 2020 19:22:33 +0000
To: Douek, Daniel (NIH/VRC) [E]; Mascola, John (NIH/VRC) [E]; Koup, Richard (NIH/VRC) [E]; Roederer, Mario (NIH/VRC) [E]; Seder, Robert (NIH/VRC) [E]; McDermott, Adrian (NIH/VRC) [E]; Sullivan, Nancy (NIH/VRC) [E]; Boritz, Eli (NIH/NIAID) [E]; Ledgerwood, Julie (NIH/NIAID) [E]; Gall, Jason (NIH/VRC) [C]; Kwong, Peter (NIH/VRC) [E]; Scorpio, Diana (NIH/VRC) [E]; Chen, Grace (NIH/NIAID) [E]
Subject: RE: CoV info

We are adding [REDACTED] (b) (5)

BG

From: Douek, Daniel (NIH/VRC) [E] [REDACTED] (b) (6) >
Sent: Monday, March 16, 2020 3:18 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) >; Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6); Koup, Richard (NIH/VRC) [E] [REDACTED] (b) (6) >; Roederer, Mario (NIH/VRC) [E] [REDACTED] (b) (6); Seder, Robert (NIH/VRC) [E] [REDACTED] (b) (6) >; McDermott, Adrian (NIH/VRC) [E] [REDACTED] (b) (6); Sullivan, Nancy (NIH/VRC) [E] [REDACTED] (b) (6) >; Boritz, Eli (NIH/NIAID) [E] [REDACTED] (b) (6) >; Ledgerwood, Julie (NIH/NIAID) [E] [REDACTED] (b) (6); Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6); Kwong, Peter (NIH/VRC) [E] [REDACTED] (b) (6) >; Scorpio, Diana (NIH/VRC) [E] [REDACTED] (b) (6); Chen, Grace (NIH/NIAID) [E] [REDACTED] (b) (6)
Subject: Re: CoV info

Barney, seeing as the [REDACTED] (b) (5)
[REDACTED] (b) (5)

d

From: Barney Graham [REDACTED] (b) (6)
Date: Monday, March 16, 2020 at 8:21 PM
To: VRC Bldg 40 PI Plus <VRCPIPlus@mail.nih.gov>
Subject: CoV info

How to kill CoV

<https://www.medrxiv.org/content/10.1101/2020.03.09.20033217v2>

MERS CoV on environmental services – Attached

First trial participant enrolled about 12:30 EDT!

<https://www.niaid.nih.gov/news-events/nih-clinical-trial-investigational-vaccine-covid-19-begins>

Barney

Barney S. Graham, MD, PhD
Senior Investigator
Deputy Director, Vaccine Research Center
Chief, Viral Pathogenesis Laboratory
National Institute of Allergy and Infectious Diseases, NIH
40 Convent Drive, MSC 3017
Bldg 40, Room 2502
Bethesda, MD 20892-3017
Phone: (b) (6)
URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 13 Mar 2020 16:13:02 +0000
To: Neil King
Subject: RE: VRC / (b) (4)

Haven't heard from Lynda. In between calls now for just a few minutes.

BG

From: Neil King (b) (6)
Sent: Friday, March 13, 2020 12:12 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Re: VRC / (b) (4)

Hi Barney,

Haha, thanks. I'm not at all upset (i.e., 0%), but just would like to be on calls with pharma. I learn something every time I talk to them!

Have you talked to Lynda yet?

Neil

On Fri, Mar 13, 2020 at 9:09 AM Graham, Barney (NIH/VRC) [E] (b) (6) wrote:
If it makes any difference I was not on that call either.

BG

From: Neil King (b) (6)>
Sent: Friday, March 13, 2020 12:08 PM
To: Bok, Karin (NIH/VRC) [E] (b) (6)>
Cc: Dennis A. Hanson <(b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6); Kanekiyo, Masaru (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Re: VRC / (b) (4)

Thanks Karin!

On Fri, Mar 13, 2020 at 8:28 AM Bok, Karin (NIH/VRC) [E] (b) (6) wrote:
Neil,

Of course, my apologies. It was a last minute call basically to tell us [REDACTED] (b) (4)

Not more than that.

I will invite you nevertheless in the future.

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: [REDACTED] (b) (6) | mobile: [REDACTED] (b) (6) | email: [REDACTED] (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: Neil King [REDACTED] (b) (6)
Date: Friday, March 13, 2020 at 9:56 AM
To: Karin Bok [REDACTED] (b) (6)>, "Dennis A. Hanson" <[REDACTED] (b) (6)>
Cc: "Stein, Judy (NIH/VRC) [C]" <[REDACTED] (b) (6)> "Petrik, Amy (NIH/NIAID) [E]"
[REDACTED] (b) (6)>, "Kanekiyo, Masaru (NIH/VRC) [E]" [REDACTED] (b) (6),
"Alvarado, Gabriela (NIH/VRC) [C]" <[REDACTED] (b) (6)>, "Graham, Barney (NIH/VRC)
[E]" [REDACTED] (b) (6)>
Subject: Re: FW: VRC / Janssen WP

Hi Karin,

Thanks for reaching out. Bummer, I wish I had known there was going to be a call -- I would have really liked to join. Could you please let me know in the future if there will be discussions with pharma companies around collaboration/development plans?

Please find attached an updated draft. I included statements that [REDACTED] (b) (4)

[REDACTED]

[REDACTED]

Happy to discuss further,
and thanks again,
Neil

On Fri, Mar 13, 2020 at 6:24 AM Bok, Karin (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:
Good Morning,

We had a great call with (b) (4) and I think we are almost done with the research plan. Would you mind taking a last look and let me know what you think? They will also share a proposed timeline for this work soon.

After that we are ready to proceed to the (b) (4)

Thank you!

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: (b) (6) | mobile: (b) (6) email (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: (b) (6), (b) (4)

Date: Thursday, March 12, 2020 at 11:27 AM

To: Karin Bok (b) (6) >

Cc: "Kanekiyo, Masaru (NIH/VRC) [E]" <(b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" <(b) (6), (b) (4)>

Subject: RE: VRC / (b) (4)

Hi Karin,

I'm attaching our comments to the work plan here. We have accepted many of the suggestions, with some edits, which we will take you through.

We look forward to the discussion.

Best,

(b) (4)

From: Bok, Karin (NIH/VRC) [E] (b) (6)

Sent: Tuesday, March 10, 2020 10:41 AM

To: (b) (6), (b) (4)

Cc: Kanekiyo, Masaru (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C]

(b) (6) >
Subject: Re: VRC / (b) (4)

Hi (b) (4)

If morning is best, we could do either Thursday or Friday (March 12-13) at 9 Am.
Any of those times work?

Karin.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health
phone: (b) (6) | mobile: (b) (6) | email: (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: (b) (6), (b) (4)
Date: Tuesday, March 10, 2020 at 10:21 AM
To: Karin Bok <(b) (6)>
Cc: "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6), "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6) >
Subject: RE: VRC / (b) (4)

Thanks for the note, Karin. I will wait to hear back from you on times that would work.

Best,

(b) (4)

From: Bok, Karin (NIH/VRC) [E] (b) (6) >
Sent: Tuesday, March 10, 2020 9:43 AM
To: (b) (6), (b) (4)
Cc: Kanekiyo, Masaru (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)
Subject: Re: VRC / (b) (4)

(b) (4)

Sorry about the late reply. No, that date/time unfortunately does not work. I would like to include Masaru and Gabriela on the call as well.
If you give us a couple of options, we will try to make it work.

Thank you!

Karin.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health
phone: (b) (6) | mobile: (b) (6) | email: (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: (b) (6), (b) (4) >
Date: Monday, March 9, 2020 at 11:57 AM
To: Karin Bok (b) (6) >
Subject: RE: VRC / (b) (4)

Hi Karin,

I am sure you are still swamped with all the goings-on. But just wanted to check back in with you on timing to review the work plan. Wednesday at 10:00a EDT still works, but let me know if you need to look further out.

Thanks,

(b) (4)

From: (b) (4)
Sent: Wednesday, March 4, 2020 4:24 PM
To: Bok, Karin (NIH/VRC) [E] (b) (6)
Subject: RE: VRC / (b) (4)

Yes, coronavirus seems to be the focus of most of the world right now.

We would need (b) (4) to be on the call, so afternoons are difficult. Also, Tuesday morning now looks like it may be a bit tight. Would you happen to have Wednesday Mar. 11 at 10:00a-11:00a EST open?

Best,

(b) (4)

From: Bok, Karin (NIH/VRC) [E] (b) (6)>
Sent: Wednesday, March 4, 2020 9:59 AM
To: (b) (6), (b) (4)
Subject: Re: VRC / (b) (4)

(b) (4)

Thank you for the update. I am sure you were also taken over by coronavirus like we did. Looking forward to talking to you. Friday after 3PM and Tuesday morning are open right now.

Thanks,

Karin.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health
phone: (b) (6) | mobile: (b) (6) | email: (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: (b) (6), (b) (4)
Date: Tuesday, March 3, 2020 at 2:38 PM
To: Karin Bok (b) (6)
Subject: RE: VRC / (b) (4)

Dear Karin,

I just wanted to drop you a quick note to let you know we have been reviewing the work plan internally, and will get back to you before the end of the week. I would suggest we set up a call shortly after that to discuss the work plan and next steps. Does that work for you, and would you have availability late this week or early next week?

Thanks,

(b) (4)

(b) (4)

(b) (6), (b) (4)

From: Bok, Karin (NIH/VRC) [E] (b) (6) >

Sent: Wednesday, February 5, 2020 4:49 PM

To: (b) (6), (b) (4)

Cc: (b) (6), (b) (4)

(b) (6), (b) (4)

Kanekiyo, Masaru (NIH/VRC) [E]

(b) (6); Graham, Barney (NIH/VRC) [E] (b) (6) >

Subject: Re: VRC / (b) (4)

Dear (b) (4)

I apologize, Coronavirus derailed my plans a little bit. Please find our research plan for a proposed collaboration attached.

This is what we could come up with after our call last week, but we are open to suggestions from your scientific team as well.

The main goal is to have a suitable research plan that will support the research collaboration agreement from both sides.

Best Regards,

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: (b) (6) | mobile: (b) (6) | email: (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: (b) (6), (b) (4)

Date: Monday, February 3, 2020 at 4:46 PM

To: Karin Bok (b) (6) >

Cc: (b) (6), (b) (4)

Subject: VRC / (b) (4)

Dear Karin,

I hope you are doing well. I just wanted to check in to ask if you were able to pull together the additional edits you mentioned on our recent call with respect to the work plan. Please let us know if we can be of further help.

Best regards,

(b) (6), (b) (4)



From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 8 Apr 2020 21:11:05 +0000
To: Mascola, John (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]
Subject: RE: Immunity Request for Review (b) (6) TIME SENSITIVE

Thanks John,

I don't think I will be able to help. (b) (5)

BG

From: Mascola, John (NIH/VRC) [E] (b) (6) >
Sent: Wednesday, April 8, 2020 4:50 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) >; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >; Ruckwardt, Tracy (NIH/VRC) [E] (b) (6)
Subject: FW: Immunity Request for Review (b) (6) - TIME SENSITIVE

Barney and anyone here,

I know we are all very busy – but if there is interest in reading and reviewing this paper – (b) (5) – let me know. They would want it done within 5-6 days I'm sure.

Would each of you indicate yes or know to me and Sarah by Noon tomorrow – and If yes - I would accept and tell Kavitha who will review with me. If too busy – I'll decline.

Thanks,
John

From: Scranton, Kavitha (ELS-CMA) <kscranton@cell.com>
Sent: Wednesday, April 8, 2020 4:13 PM
To: Mascola, John (NIH/VRC) [E] (b) (6)
Subject: Re: Immunity Request for Review (b) (6) - TIME SENSITIVE

Dear John,

As I mentioned, we're trying to review COVID-19 papers quickly, within 3-5 days if possible, but we also appreciate that this is a difficult and stressful time. Please let me know if you'll be able to take a look at this paper, and we're happy to work with you to come to a reasonable deadline that works for you.

Best,
Kavitha

Kavitha Scranton, Ph.D. | Senior Scientific Editor, [Immunity](#) | 50 Hampshire Street, 5th Floor, Cambridge, MA 02139, USA | Tel: +1-617-397-2851 | Email: kscranton@cell.com | Website: www.cell.com/immunity | Twitter: [@ImmunityCP](#) [@KavithaSci](#)

From: <em.immunity.5b1c.6a7c53.d82e2e6c@editorialmanager.com> on behalf of Kavitha Scranton <em@editorialmanager.com>
Reply-To: "Scranton, Kavitha (ELS-CMA)" <kscranton@cell.com>
Date: Wednesday, April 8, 2020 at 4:12 PM
To: "Scranton, Kavitha (ELS-CMA)" <kscranton@cell.com>
Subject: Immunity Request for Review [REDACTED] (b) (6) - TIME SENSITIVE

You are being carbon copied ("cc:d") on an e-mail "To" "John Mascola" [REDACTED] (b) (6)
CC: kscranton@cell.com

Dear Dr. Mascola,

I am writing to invite you to review a manuscript by [REDACTED] (b) (6), (b) (4)
[REDACTED] (b) (6), (b) (4)

[REDACTED] (b) (6), (b) (4) I am including the abstract below. We are considering this manuscript as a candidate for our Report format. **We are trying to expedite review of all COVID-19 papers, and we would appreciate it if you could commit to reviewing this quickly, within 3-5 days. We also recognize that everyone is experiencing substantial personal and professional challenges due to the pandemic, so please let me know what is possible. We're happy to work with you on a timeline that is reasonable for you.**

For our short format articles, we are looking for findings of high novelty that open up new avenues of research for the field or have immediate implications for therapeutic applications. In the interest of facilitating a more rapid dissemination of findings of immediate impact, we recognize that not all points of the paper may be fully fleshed out, as they traditionally are in our full-length papers. However, as with all [Immunity](#) articles, Reports should be scientifically and technically sound, and the data should fully support the main conclusions. In your evaluation of this manuscript, in addition to the technical and experimental aspects, we would appreciate it if you would comment specifically on the level of advance and it's suitability for an *Immunity* Report. **If you have any questions about this new potential format or would like to discuss it further, please contact me directly by replying to this email, and I would be happy to set up a time to talk.**

Please note that by agreeing to review, you are also agreeing to have your comments and identity transferred between professional editors of Cell Press journals within the context of the [Cell Press Article Transfer System](#).

If you agree to review the manuscript, it would be due in 10 days. If this is a busy time, I would be grateful if you could suggest alternative referees for this manuscript. Please do keep diversity of gender, career stage and geography in mind as you make these suggestions. We understand that the global COVID-19 situation may well be causing disruption for you and your colleagues. If that is the case for you and you would need more time than usual to be able to complete this review, please let us know so we can agree on a time frame that works for you.

Please accept or decline this invitation by selecting the appropriate link below:

AGREE: *****

DECLINE: *****

Your username is: *****

If you need to retrieve password details, please go to: [Immunity](#)

Thank you and with best regards,

Kavitha Scranton, Ph.D.
Scientific Editor, *Immunity*
immunity@cell.com
Phone: 617-397-2860

(b) (6), (b) (4)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 17 Jan 2020 03:21:11 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Cc: Morabito, Kaitlyn (NIH/VRC) [E]
Subject: Re: Wuhan CoV - (b) (4)

Ok. Thanks. If it was (b) (4), (b) (5)
(b) (4), (b) (5)

BG

Sent from my iPhone

On Jan 16, 2020, at 6:56 PM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) wrote:

(b) (4), (b) (5)

(b) (4), (b) (5) Sorry my phone won't allow me to pull it up at the moment.

Sent from the mobile device of:
Kizzmekia S. Corbett, PhD
Senior Research Fellow
NIH | NIAID | VRC
(b) (6)

From: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Date: Thursday, January 16, 2020 at 9:37:14 PM

To: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)
Cc: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)
Subject: Re: Wuhan CoV - (b) (4)

(b) (5), (b) (4)

BTW, my flight home tomorrow lands about 4pm so I could get on the Moderna call shortly after.
BG

Sent from my iPhone

On Jan 16, 2020, at 5:24 PM, Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)> wrote:

Hi Dr. Graham,

(b) (4), (b) (5)

Thanks,
Sent from the mobile device of:
Kizzmekia S. Corbett, PhD
Senior Research Fellow
NIH | NIAID | VRC
(b) (6)

From: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)
Date: Thursday, January 16, 2020 at 6:32:20 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)
Subject: Re: Wuhan CoV - (b) (4)

Hi Kaitlyn,
(b) (5), (b) (4)

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow

National Institutes of Health

National Institutes of Allergy and Infectious Diseases

Vaccine Research Center

Viral Pathogenesis Laboratory

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

From: Kaitlyn Morabito (b) (6)

Date: Tuesday, January 14, 2020 at 8:24 PM

To: Barney Graham (b) (6), Hamilton Bennett

(b) (6), Sunny Himansu (b) (6)>

"Stein, Judy (NIH/VRC) [C]" (b) (6)>

Cc: Andrea Carfi (b) (6)>, Kizzmekia Corbett

(b) (6)

Subject: Re: Wuhan CoV - (b) (4)

Hamilton and all,

(b) (4)

Please let us know if you have any questions. Barney is on travel at the end of the week, but it looks like he may have some time early on Tuesday Morning before 10 if you are available.

Best,
Kaitlyn

From: Barney Graham <(b) (6)>
Date: Tuesday, January 14, 2020 at 4:01 PM
To: Hamilton Bennett <(b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)>
Cc: Andrea Carfi <(b) (6)>, Kizzmekia Corbett <(b) (6)>
Subject: RE: Wuhan CoV - (b) (4)

I asked that the (b) (4) so hopefully tonight.

BG

From: Hamilton Bennett <(b) (6)>
Sent: Tuesday, January 14, 2020 3:56 PM
To: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)>
Cc: Andrea Carfi <(b) (6)>
Subject: Wuhan CoV - (b) (4)

Hi Kaitlyn and Barney,

Would you be able to provide an update on (b) (4)

(b) (4)

I suggest we regroup and the end of the week if that works for you. Andrea and I are both available at 4pm on Thursday and Friday.

Cheers,

Hamilton Bennett

Associate Director, Vaccine Access and Partnerships | Moderna

Tel: (b) (6) | Cell: (b) (6) modernatx.com

[<image001.jpg>](#)

[<image002.jpg>](#)

[<image003.jpg>](#)

[<image004.jpg>](#)

[<image005.jpg>](#)

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<2019-nCoV (b) (4) Sequence for Moderna_20200116.docx>









From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 2 Apr 2020 12:36:51 +0000
To: William Dowling;Krammer, Florian; (b) (6);Thornburg, Natalie (CDC/DDID/NCIRD/DVD)
Subject: RE: Protocols?
Attachments: (b) (4)_20200323.pdf

Hi Bill,

Here is our SOP for the (b) (4)
, and we can send a protocol for (b) (4) if needed.

Take care,

Barney

From: William Dowling (b) (6)
Sent: Tuesday, March 31, 2020 10:48 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Krammer, Florian (b) (6) Thornburg, Natalie (CDC/DDID/NCIRD/DVD) (b) (6)
Subject: Protocols?

Hello all

Thank you so much for presenting last week and for generously sharing your slides. I was wondering if it might be possible to also upload protocols on the sharepoint site. I think this would be very helpful.

Thanks
Bill

William Dowling, PhD
Non-Clinical Vaccine Development Leader

CEPI New vaccines
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(b) (6)

(b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Apr 2020 16:29:16 +0000
To: Ruckwardt, Tracy (NIH/VRC) [E]
Subject: Re: RSV (b) (5)

Hi Tracy,

Let's discuss (b) (5)
I'd like to discuss what you have in mind (b) (5)

BG

Sent from my iPhone

On Apr 23, 2020, at 11:04 AM, Ruckwardt, Tracy (NIH/VRC) [E] <(b) (6)> wrote:

Hi Sonnie,

As Barney indicated, we had made progress with binning a few of our (b) (5), and trying to plan a strategy with Jason for (b) (5) before we ended up having to dedicate full effort to COVID. There are many more (b) (5)

(b) (5)
Right now, it's just hard to know when we will be able to get back into these efforts.

Best,
Tracy

From: "Graham, Barney (NIH/VRC) [E]" (b) (6)
Date: Wednesday, April 22, 2020 at 9:22 AM
To: "Kim, Sonnie (NIH/NIAID) [E]" (b) (6) "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6)
Subject: RE: RSV (b) (5)

Thanks Sonnie. We are making progress on this. Tracy will fill in the details and suggest a timeline for finalizing.

Barney

From: Kim, Sonnie (NIH/NIAID) [E] (b) (6)>
Sent: Wednesday, April 22, 2020 7:19 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>; Ruckwardt, Tracy (NIH/VRC) [E]
(b) (6)>
Subject: RSV (b) (5)

Hi Barney and Tracy,
Rama et al from PATH contacted me re the (b) (5)
(b) (5) They wanted to know what
the plans were for generating the (b) (5) to deposit into BEI. Can you tell me where
you guys are with the generation of the (b) (5) PATH will need a rough timeline so if BMGF gives
them the no cost extension, the work will need to be completed within the grant's period of
performance. I told them we were working together on the Moderna trial and not sure if much progress
has been made on the (b) (5). Any information will help PATH on their plans for further funding of
this project. (b) (5)
(b) (5)

Thanks,
Sonnie

Sonnie Kim, M.S.
Program Officer
Respiratory Diseases Branch
DMID/NIAID/NIH
5601 Fishers Lane Room 8E12
Rockville, MD 20852
Tel: (b) (6)
Cell: (b) (6)
Email: (b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 18 Mar 2020 22:15:28 +0000
To: Andrea Carfi
Cc: Corbett, Kizzmekia (NIH/VRC) [E];Bennett Hamilton;Morabito, Kaitlyn (NIH/VRC) [E];Alvarado, Gabriela (NIH/VRC) [C];Bok, Karin (NIH/VRC) [E];Stein, Judy (NIH/VRC) [C]
Subject: RE: next COVID-19 animal model -

Thank Andrea. I will send you a deck of what is shown.

Barney

From: Andrea Carfi [REDACTED] (b) (6)
Sent: Wednesday, March 18, 2020 5:28 PM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED] (b) (6)>
Cc: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6) Bennett Hamilton [REDACTED] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] [REDACTED] (b) (6)>; Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6)>; Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>
Subject: Re: next COVID-19 animal model -

Hi Barney,
Ok with sharing the data and plans. We all agree is important. People have been asking for these data [REDACTED] (b) (4). For what is worth you could add a "confidential" label on the slide.
Best,
Andrea

On Mar 18, 2020, at 8:40 AM, Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (5)> wrote:

FYI. How would you all feel about sharing data with this WHO group Tomorrow morning. There are a lot of opinion leaders on the call, so could be helpful. I'm thinking I will show [REDACTED] (b) (4)

Barney

Sent from my iPhone

Begin forwarded message:

From: "GSELL, Pierre" [REDACTED] (b) (6)>
Date: March 18, 2020 at 5:10:24 AM EDT
To: "Graham, Barney (NIH/VRC) [E]" <[REDACTED] (b) (6)>
Cc: Simon Funnell [REDACTED] (b) (6)>, Cesar Munoz-Fontela [REDACTED] (b) (6)>, William Dowling [REDACTED] (b) (6)
Subject: FW: next COVID-19 animal model -

Dear Barney,

Thanks again for your participation in the animal group.

In preparation for tomorrow's call, 2pm Geneva time, please let us know if you have any new data that you would like to share with the group. If so, please send us a couple of slides in advance. Of particular interest would be a brief summary of animal data that was generated to move forward the Moderna candidate vaccine to Phase 1 and further plans to assess vaccine and therapeutics effectiveness in animals. Please advise.

Kind regards and apologies for short notice.

Pierre-Stéphane Gsell

Technical Officer

R&D Blueprint | Health Emergencies Programme | 1156

World Health Organization | Avenue Appia 20 | 1211 Geneva 27 | Switzerland

Desk: [REDACTED] (b) (6) | Mob [REDACTED] (b) (6)

From: Simon Funnell [REDACTED] (b) (6)>
Sent: 17 March 2020 12:34
To: GSELL, Pierre [REDACTED] (b) (6)
Subject: OFFICIAL: RE: Draft slides email

Dear COVID-19 modelling group participant, thank you for your continued participation in this growing international collaboration. Please find attached the Webex dial-in details for our next COVID-19 modelling *ad hoc* experts, regulators and funders telecon.

Our agenda for the 19th March will include;

1. Introduction followed by verbal updates on
 1. Non-human primate studies
 2. Ferret studies
 3. Murine studies
 4. Any other infection modelling studies

1. Update on the current emergency use situation
2. Identification of what we can do now to provide regulators confidence to proceed with Phase 1 vaccine studies
3. Identification of what we can do now to accelerate the identification and use of therapeutics as soon as possible
4. AOB

Please email us slides (no more than 3 for a 5 minute talk) if you have an update you would like to share with us.

We need to hear from all of you if you have live or recently completed studies especially related to disease enhancement if it occurs.

Please note that we intend to keep to a weekly Thursday telecon schedule for the time being in order to help attendees plan their participation in what we know are challenging circumstances for all.

There are many participants so please mute your microphone unless invited to speak by Pierre to avoid feedback and assist orderly communication between participants. Please also use a headset where possible as speakerphones tend to be source of feedback problems.

If you cannot attend this call, please update the growing excel summary table found in the sharepoint drive and view the presentations of this and previous calls.

Access to the sharepoint drive is also included as a reminder;

[REDACTED] (b) (4)
[REDACTED]
[REDACTED]

You will also find minutes of our previous calls in the meetings subdirectory.

Your contributions have already led to refinement and continued input will help reduce unnecessary replication of global effort.

 **Please consider the environment before printing this email**

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From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 22 Feb 2020 20:46:30 +0000
To: Dennis Burton
Cc: Thomas Rogers; Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Stein, Judy (NIH/VRC) [C]; Bok, Karin (NIH/VRC) [E]
Subject: RE: Coronavirus

Hi Dennis,

Glad to help. I think we can [REDACTED] (b) (4)

[REDACTED]
[REDACTED] We can send you the protocols we are using.

Best wishes,

Barney

From: Dennis Burton <[REDACTED] (b) (6)>
Sent: Saturday, February 22, 2020 2:31 PM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED] (b) (6)>
Cc: Thomas Rogers [REDACTED] (b) (6)>
Subject: Coronavirus

Barney,

Good to talk on the phone yesterday. [REDACTED] (b) (4)

[REDACTED]
[REDACTED] I can have Tom from my lab coordinate shipping etc if that sounds good to you. Of course, happy to sign MTA if you would like while Tom and your staff work out details. Many thanks,

Dennis

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 17 Apr 2020 23:19:04 +0000
To: Mascola, John (NIH/VRC) [E];Koup, Richard (NIH/VRC) [E];Ledgerwood, Julie (NIH/NIAID) [E];Daucher, Marybeth (NIH/NIAID) [E]
Subject: Fwd: Fox News/Tucker Carlson Tonight inquiry about Dr. Corbett

FYL. [REDACTED] (b) (5)

Barney

Sent from my iPhone

Begin forwarded message:

From: "Billet, Courtney (NIH/NIAID) [E]" [REDACTED] (b) (6).
Date: April 17, 2020 at 3:46:17 PM EDT
To: "Corbett, Kizzmekia (NIH/VRC) [E]" [REDACTED] (b) (6), "Graham, Barney (NIH/VRC) [E]" [REDACTED] (b) (6)>
Cc: "Stover, Kathy (NIH/NIAID) [E]" <[REDACTED] (b) (6)>, "Routh, Jennifer (NIH/NIAID) [E]" [REDACTED] (b) (6)>
Subject: FW: Fox News/Tucker Carlson Tonight inquiry about Dr. Corbett

Hi to you both. I need to make you aware of this inquiry.

Sent: Friday, April 17, 2020 2:38 PM
To: Fine, Amanda (NIH/OD) [E] [REDACTED] (b) (6) Myles, Renate (NIH/OD) [E] [REDACTED] (b) (6)>; Wojtowicz, Emma (NIH/OD) [E] [REDACTED] (b) (6)>
Subject: Fox News/Tucker Carlson Tonight inquiry about Dr. Corbett

Hi — Dr. Kizzmekia Corbett is currently being described by the press as the nation's "lead scientist for coronavirus vaccine research."

Corbett has tweeted in recent weeks that hospitals will refuse to treat black patients and suggested she thinks the virus is a genocide of black Americans.

Does the NIH have any comment on her extremist views? Please get back to me by 5:30 PM EST. We will be covering Dr. Corbett tonight.

One Twitter user tweeted at her, "It's so scary to think about. I know when it comes down to it people will be turned away or left to die because they are black."

Corbett replied on April 9, "**Yep. Both**"

Another user wrote, "They hate us. This virus is a sure fire way to get rid of us without having to lift a finger."

Corbett responded on April 11: "**Some have gone as far to call it genocide. I plead the fifth.**"

Earlier on March 29, Corbett tweeted out a Bloomberg article about how the poor are getting hit hard by coronavirus. She commented, "I tweet for the people who will die when doctors has to choose who gets the last ventilator and ultimately... who lives. The poor. And, **while the article doesn't explicitly say it... the black.**"

She retweeted a thread that said Dr. Adams' comments that black people should take care to avoid cigarettes and alcohol were "offensive because they ignore systemic racism." The deranged thread went to say: "So Dr. Fauci and Dr. Adams, check your privilege. Think critically. Stop spreading harmful fallacies that support white supremacy."

Corbett commented: "**Pasting this thread here because it's appropriately put. Black ppl are not dying more because of their behaviors that is just a cop out to adjust accountability.**"

Corbett is an open activist on Twitter. When the Congressional Black Caucus sent a letter to the CDC Director stating that "implicit bias among health providers" is leading to fewer black Americans being tested, Corbett tweeted out the letter and remarked, " Ok, **the Congressional Black Caucus is APPLYING PRESSURE! I love to see it.**"

Last week, Corbett get in an argument with a Twitter user and said that that "merit" is often "defined by prejudices[sic]." The other replied, "So we can just dismiss anything white men are involved in because they're intrinsically malevolent? Come on, now."

Corbett responded: "No absolutely not. **White men are not to be dismissed, but the systems that they (ancestors or current) curated are.**"

Does the NIH approve of a top scientist having this sort of racist views?

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 30 Apr 2020 20:13:12 +0000
To: Pierson, Theodore (NIH/NIAID) [E]
Subject: Science commentary
Attachments: abb8923_Graham_v1a_GA_BG v8_clean.docx, Figure 1_V4.pptx

Probably should have had you read this before finalizing. Sent it in today.

BG

Barney S. Graham, MD, PhD
Senior Investigator
Deputy Director, Vaccine Research Center
Chief, Viral Pathogenesis Laboratory
National Institute of Allergy and Infectious Diseases, NIH
40 Convent Drive, MSC 3017
Bldg 40, Room 2502
Bethesda, MD 20892-3017
Phone: (b) (6)
URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 14 Apr 2020 16:58:13 +0000
To: Brendan Michael Monks
Cc: Ulrich Betz
Subject: Re: Merck KGaA, Darmstadt, Germany - Coronavirus Advisory Board Invitation
Attachments: image002.png, image004.png

Thank you for this offer. Unfortunately, I am too busy with the vaccine response at the moment to make any other commitments. Also it looks like you are focused largely on antiviral and postinfection treatment and my expertise is primarily in prevention.

Barney

Sent from my iPhone

On Apr 7, 2020, at 6:26 AM, Brendan Michael Monks <(b) (6)> wrote:

Dear Barney Graham,

Merck KGaA, Darmstadt, Germany, a leading science and technology company, through the Future Insight Prize (https://www.merckgroup.com/en/research/open-innovation/futureinsightprize_streaming.html) and other activities is committed to addressing the COVID-19 crisis directly. You can find out more information about all these efforts through our website <https://www.merckgroup.com/en/company/press/press-kits/corona-pandemic.html>.

In addition to these efforts we are organizing a 2 hour call with experts from around the world on Coronavirus to form an advisory board. The topics to be discussed include:

- Situation anti SARS-CoV2 drugs, diagnostics and preventive measures
- What can Merck do to help
- How can a long term strategy look like on developing products for pandemic preparedness? Broad band antivirals? Alert diagnostics? Immune stimulants etc.?

We formally invite you to participate as we are about to potentially start new R&D projects in the area of pandemic preparedness (treatment of this and future pandemics) and are asking about your help. You will have your time participating in the advisory board financially compensated. Please contact me back and I will send you the call invitation.

If you cannot attend but would like to nominate another researcher you believe could contribute to the advisory board please feel free to tell me. If you have any questions please don't hesitate to contact me.

Best regards,

Dr. Brendan Monks

Senior Innovation Manager
Group Strategy and Transformation | Future Insight – ST-R

<image002.png>

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<image004.png>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 18 Feb 2020 13:29:49 +0000
To: Sallie Permar, M.D., Ph.D.
Subject: Re: Invitation: WHO Zika Virus Research & Development (R&D) Roadmap, Paris, France, from 19 to 20 March 2020

You should definitely go if you haven't been to WHO before. It is useful to see how things are managed from that perspective and you would be good for them.

Take a photo by the smallpox statue in front of the headquarters main entrance.

Best wishes,

Barney

Sent from my iPhone

On Feb 18, 2020, at 7:45 AM, Sallie Permar, M.D., Ph.D. <[REDACTED] (b) (6)> wrote:

Yes, the definitive monkey study has been published!
Ok thanks, I have never been to a WHO convened meeting before...

From: Barney Graham [REDACTED] (b) (6)>
Date: Tuesday, February 18, 2020 at 6:47 AM
To: Sallie Permar [REDACTED] (b) (6)
Subject: Re: Invitation: WHO Zika Virus Research & Development (R&D) Roadmap, Paris, France, from 19 to 20 March 2020

I was invited but will be at the Keystone meeting on Vaccinology. Not sure about the meeting. I think the next big step has to be [REDACTED] (b) (4)

BG

Sent from my iPhone

On Feb 18, 2020, at 6:37 AM, Sallie Permar, M.D., Ph.D. <[REDACTED] (b) (6)> wrote:

Hi Barney – I was wondering if you will be attending this WHO meeting on Zika (in the midst of coronavirus!), I am trying to decide whether to attend

From: "ALAYET, Jihene" <(b) (6)>
Date: Monday, February 17, 2020 at 11:44 AM
To: Sallie Permar (b) (6) >
Cc: "EMBAYE, Ruth" (b) (6) "TEMU, Anaelia Siya" (b) (6), Anje Mehr (b) (6) >
Subject: Invitation: WHO Zika Virus Research & Development (R&D) Roadmap, Paris, France, from 19 to 20 March 2020

Dear Dr Permar,

We are pleased to send you attached your letter of invitation to attend **WHO Zika Virus Research & Development (R&D) Roadmap** to be held at Le Méridien Etoile Hotel in Paris, France from 19 to 20 March 2020.

Grateful if you could confirm your participation by returning duly filled and signed the Declaration of Interests for WHO Experts, at the latest by 21 February 2020.

Kindly note that a block booking has been made at the following hotel:

- Le Méridien Etoile
- Address: 81 Boulevard Gouvion Saint-Cyr, 75848 Cedex 17, Paris 75017 France
- Telephone: +33 1 40 68 34 34
- Website: <https://www.marriott.com/hotels/travel/parmd-le-m%C3%A9ridien-etoile/?scid=bb1a189a-fec3-4d19-a255-54ba596febe2>

Accommodation and breakfast for the duration of the meeting will be paid for by WHO.

You will receive a per diem to cover your meals, transportation and other incidental or miscellaneous expenses. Please fill out the attached supplier form with your bank details and send it back to me so that we could proceed with your per diem transfer.

Regarding your flight booking, we kindly ask you to make your flight reservation in economy seating, via the most economical route, by filling out all requested information in the below link for our WHO partner agency office stated below:

- Carlson Wagonlit Travel
- www.cwt-trip-order.com/cto/rest/obr/auth/standalone/sessionStartup/WHO Standalone-8365 (please copy/paste the link into your internet browser if you encounter problems when opening the link)
- Telephone: (4122) 791 40 71 (08H30-17H30 GVA time)
- Email: whoint.ch@contactcwt.com

Please also add Ms Jihene Alayet (b) (6), as the travel arranger. When making your reservations, please bear in mind that you should plan to arrive the day before the meeting starts (i.e., March 18) and depart with the first available flight after the end of the meeting. Kindly note that should you wish to upgrade your ticket, or change the airline or route, you may do so at your own expense, in accordance with WHO policy.

Kindly note that your ticket will be provided by WHO through this agency only. Any request to purchase your own ticket for reimbursement must receive prior approval by WHO, which will be given in exceptional circumstances only. Attached is the user guide to facilitate your flight booking.

Upon receipt of this letter, please verify with the nearest Embassy or consulate whether you are required to have a visa to enter France. If so, kindly let us know by sending me a copy of your passport. Following receipt of your email, WHO will provide you with a visa support letter, which you should present with your other visa documents.
Should you have any question, please do not hesitate to contact us.

Best regards,

Jihene Alayet

Logistics Assistant

World Health Organization

HQ/GCT Global Conference and Training Centre

Rue du développement-Cité El Khadra-1003

Tel: (b) (6)

Fax: + 216 71 15 56 79

Email: (b) (6)

<image001.png>

<Userguide CWT WHO travel.pdf>

<Supplier form.doc>

<DOI.DOCX>

<Invitation-Dr Sallie Permar.pdf>

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 28 Feb 2020 14:02:52 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E];Mascola, John (NIH/VRC) [E];Young, Monique (NIH/VRC) [E];Bok, Karin (NIH/VRC) [E]
Subject: FW: Coronavirus update for your upcoming Keystone Symposia meeting

I think they will likely end up canceling this meeting, but this is their initial decision.

Barney

From: Allison Ogdon <AllisonO@keystonesymposia.org>
Sent: Friday, February 28, 2020 12:10 AM
To: Allison Ogdon <AllisonO@keystonesymposia.org>
Cc: Heidi Daetwyler <HeidiD@keystonesymposia.org>
Subject: Coronavirus update for your upcoming Keystone Symposia meeting
Importance: High



Greetings,

In light of the current coronavirus situation, we would like to provide an update on your upcoming Keystone Symposia conference.

The health and safety of our meeting attendees and speakers is our top priority, and we are carefully monitoring the coronavirus situation around the world to ensure we take the necessary precautions as recommended by healthcare providers and public health organizations.

Currently, ***your meeting will proceed as scheduled***, and we will contact you immediately if anything changes. Decisions will be made on a moment to moment basis, as new information becomes available. We assure you that the leadership team at Keystone Symposia is closely monitoring global developments and will take swift action to ensure the health and safety of all meeting participants.

As a speaker, you hold a very special role at the meeting as a field leader. We very much appreciate your contribution to both the scientific program, and the community of luminary scientists who will convene to direct the future of the field. Your presentation will be a highlight for many attendees, and

your insights will inspire others to take on new and innovative directions in their own work. This is the essence of Keystone Symposia -- convening communities of leading scientists to inspire each other to advance biomedicine, and this would not be possible without your engagement.

We realize the current situation may add some inconveniences to travel at this time, but we also remind you that each and every one of our speakers is hand-selected by a committee of the world's leading experts to represent their field at the meeting. You are among a very select few to receive this honor. The meeting organizers, and our team at Keystone Symposia, have put a great deal of time and effort over the last two years into designing the program, and your presentation is a key part of that. We hope you will take these thoughts into consideration as the meeting approaches.

While this is a time we must all be vigilant about public health measures, we are reminding conference attendees that this is also a time to remain calm, rational and scientific in addressing the situation. We encourage you to engage with your fellow colleagues at the meeting as you normally would, to forge new collaborations and novel ideas that will drive your research and the field in innovative and fruitful directions. At the meeting, we are providing the following suggestions based on recommendations from the National Foundation of Infectious Disease:

- ***The best way to protect yourself against COVID-19 is similar to how you would take precautions against the cold or flu.*** Wash your hands often using soap and water for at least 20 seconds. Cover your cough or sneeze with a tissue or the crook of your elbow rather than your hands.
- ***There is no need to wear a face mask if you are well and do not have symptoms***—masks protect the sick from spreading germs but will not prevent you from getting sick.
- ***Do not assume that anyone of Asian descent is more likely to have coronavirus***—do not forget about the importance of inclusivity and evidence-based information.

Again, we thank you for your contributions and commitment to Keystone Symposia and wish for a very successful and inspiring meeting.

Sincerely,

(b) (6)



Deborah L. Johnson, Ph.D.
President and Chief Executive Officer
Keystone Symposia on Molecular and Cellular Biology

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From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 29 Apr 2020 14:10:40 +0000
To: Anne Werner; Corbett, Kizzmekia (NIH/VRC) [E]
Cc: Young, Monique (NIH/VRC) [E]
Subject: RE: Start Date and Current Situation

Hi Annie,

If you give us the preferred date, we will make that your start date. Monique, can you help with the arrangements? If it is May 27 fine, but if you want to come earlier, let us know.

Barney

From: Anne Werner (b) (6) >
Sent: Wednesday, April 29, 2020 9:19 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >
Cc: Young, Monique (NIH/VRC) [E] (b) (6)
Subject: Re: Start Date and Current Situation

Hello All, I hope this finds you safe, healthy, and happy!

I wanted to reach out concerning our exchange from monday. (b) (6)

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(b) (6) Thank you in advance for your time, patience, and understanding. I look forward to hearing back from you!

All the best,
Annie

Biological Sciences | Microbiology & Infectious Disease Biology | Dec 2019
Cornell University | College of Agriculture and Life Sciences | (b) (6)

Envoyé de mon iPhone

Le 27 avr. 2020 à 07:17, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) a écrit :

Thanks for the update Annie. We are happy to have you back!!! We will talk internally about how to get you trained etc. given the current social distancing measures being taken at NIH thru May 31, 2020.

Cheers,

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

From: Anne Werner (b) (6)

Date: Monday, April 27, 2020 at 7:15 AM

To: Monique Young (b) (6)>, Barney Graham (b) (6)>, Kizzmekia Corbett <(b) (6)>

Subject: Re: Start Date and Current Situation

Good morning all!

I hope you all and your loved ones are safe, healthy, and well.

I am writing this to notify you that I plan on (b) (6)

(b) (6)

If there are any conflicts with this time/any other information I should know regarding the nature of work and scheduling amidst the pandemic, please let me know when you can. I am looking forward to starting as soon as I possibly can, and at this point am flexible with my time and schedule.

All the best,
Annie

On Apr 8, 2020, at 1:15 PM, Young, Monique (NIH/VRC) [E] (b) (6) > wrote:

Hi Annie –

Thanks. Please be mindful that I will need time to prepare and submit your package for processing and approval -- 30 days at a minimum.

Once you have a date, please let me know.

Thanks...Monique

From: Anne Werner <(b) (6)>
Sent: Wednesday, April 8, 2020 12:29 PM
To: Young, Monique (NIH/VRC) [E] (b) (6) >
Subject: Re: Start Date and Current Situation

Hi Monique,

(b) (6)
(b) (6)
(b) (6)

(b) (6) When I have a better idea about timing, I will let you know as soon as possible!

All the best,
Annie

Anne Werner
Biological Sciences | Microbiology, Infectious Disease Biology 2019
College of Agriculture and Life Sciences | Cornell University | (b) (6)

On Apr 8, 2020, at 11:13 AM, Young, Monique (NIH/VRC) [E] <(b) (6)> wrote:

Hi Annie -

Thanks. I am well and hope the same for you. I understand you have pushed your start date out to (b) (6) Please let me know what day in (b) (6) you plan to start so that I can initiate the paperwork.

Thanks...Monique

From: Anne Werner (b) (6)
Sent: Wednesday, April 8, 2020 9:04 AM
To: Young, Monique (NIH/VRC) [E] (b) (6)>
Subject: Re: Start Date and Current Situation

Hi Monique, I hope this email finds you well, safe, and healthy!

I submitted my application to the IRTA board late last week, but forgot to notify you of this. I think it should be available for view, but if there are any problems please let me know!

All the best,
Annie

Anne Werner
Biological Sciences | Microbiology, Infectious Disease Biology 2019
College of Agriculture and Life Sciences | Cornell University | (b) (6)

On Mar 31, 2020, at 8:37 AM, Anne Werner <[REDACTED] (b) (6)> wrote:

Hi Monique, I hope this email finds you well!

I can confirm that [REDACTED] (b) (6) would be ideally the earliest and most reasonable time for me to start. I have not submitted my application to the IRTA program, but will have it up at sometime this week so we can move forward. I will send an email to notify you once I've both completed and submitted the forms, and if there are any other problems at that point please feel free to let me know.

Thank you for your time and patience, it is greatly appreciated!
Looking forward to hearing back from you!

All the best,
Annie

Anne Werner
Biological Sciences | Microbiology, Infectious Disease Biology 2019
College of Agriculture and Life Sciences | Cornell University | [REDACTED] (b) (6)

On Mar 30, 2020, at 9:58 AM, Young, Monique (NIH/VRC) [E] [REDACTED] (b) (6) wrote:

Hi Anne –

Hope you are doing well. Per your email, please confirm your start date is [REDACTED] (b) (6). As a Postbac, IRTA you will need to apply to the IRTA Program so that we can select you in the system. The link is <https://www.training.nih.gov/>.

If you have applied, please let me know, we cannot locate your application in the system. Once you have confirmed your start date and applied to the program, I will provide the next step in the process and the required paperwork.

I will loop everyone else in once you and I get the ball rolling.

Questions, please let me know.

Thanks...Monique

From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Wednesday, March 25, 2020 10:51 AM
To: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Anne Werner (b) (6)>
Cc: Young, Monique (NIH/VRC) [E] (b) (6)>
Subject: RE: Start Date and Current Situation

Agree, we will try to help you as much as we can, but it is a fluid situation and we are learning more and adjusting to things on a daily basis. Two main goals are to keep you (and everyone else safe), secondly to get you here for the large amount of work ahead (and for your training).

Barney

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Sent: Wednesday, March 25, 2020 10:21 AM
To: Anne Werner <(b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)>
Cc: Young, Monique (NIH/VRC) [E] (b) (6)
Subject: Re: Start Date and Current Situation

Thanks Annie, Per our understanding currently recruited IRTAs such as yourself will still be brought on. Albeit, under some fairly different work conditions (social distancing, etc.) Monique can provide the guidance you need about your appointment (b) (6)

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: Anne Werner (b) (6)
Date: Wednesday, March 25, 2020 at 10:17 AM
To: Kizzmekia Corbett (b) (6)>, Barney Graham (b) (6)

Cc: Monique Young [REDACTED] (b) (6) >

Subject: Start Date and Current Situation

Hello all, I hope that everyone is in good health and keeping safe!

With regards to my timeline, [REDACTED]

(b) (6)

(b) (6)

I need to know what the situation is like at the NIH in order to develop a more comprehensive plan for my move and when I can ideally begin. I understand things are hectic at the VRC, so please whenever you have the time let me know a little bit more on what the situation is on your side. This way we together can develop a detailed timeline— including a specific start date!

I look forward to hearing back from you and am sending my best wishes of safety and health.

All the best,
Annie

Anne Werner
Biological Sciences | Microbiology, Infectious Disease Biology 2019
College of Agriculture and Life Sciences | Cornell University | [REDACTED] (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 21 Mar 2020 12:10:10 +0000
To: Rotrosen, Daniel (NIH/NIAID) [E]
Cc: Ledgerwood, Julie (NIH/NIAID) [E]; Chen, Grace (NIH/NIAID) [E]
Subject: Re: Antibody testing

Hi Dan,

We've talked about it but don't have fixed plans. [REDACTED] (b) (5), (b) (6)

I've copied Julie and Grace here who can help with enrollment and advice.

Barney

Sent from my iPhone

> On Mar 20, 2020, at 7:44 PM, Rotrosen, Daniel (NIH/NIAID) [E] [REDACTED] (b) (6) wrote:

>

> Hi Barney,

>

[REDACTED] (b) (6), (b) (5)

> Tks, Dan

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 9 Mar 2020 01:16:13 +0000
To: Mascola, John (NIH/VRC) [E]; Neil King; Kanekiyo, Masaru (NIH/VRC) [E]; Lance Stewart
Subject: RE: (b) (4) development plans?

I am in town this week as well but there are some days with long conference calls. Probably best to do it Monday or Tuesday if possible.

Barney

From: Mascola, John (NIH/VRC) [E] (b) (6) >
Sent: Sunday, March 8, 2020 2:58 PM
To: Neil King (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6) >; Kanekiyo, Masaru (NIH/VRC) [E] (b) (6) >; Lance Stewart (b) (6)
Subject: RE: (b) (4) development plans?

Hi Neil,

Sounds like a productive discussion on your end. Barney and I also talked with (b) (4) generally – they wanted to know our thoughts on (b) (4) – we did try to plant a few seed.

(b) (4)

Agree that a call would be most productive. I am around all week

Best,
John

From: Neil King (b) (6) >
Sent: Sunday, March 8, 2020 8:44 AM
To: Graham, Barney (NIH/VRC) [E] < (b) (6) >; Kanekiyo, Masaru (NIH/VRC) [E] < (b) (6) >; Mascola, John (NIH/VRC) [E] (b) (6) >; Lance Stewart (b) (6)
Subject: (b) (4) development plans?

Hi Barney, John, and Masaru,

I wanted to circle back with you guys after the BMGF meeting and everyone we talked to last week -- the highest echelons of the US government on your side, a couple Silicon Valley foundations on my side.

(b) (4)

[REDACTED] (b) (4)

[REDACTED] This could be a great way to get a more solid idea of what exactly needs to be done, and what the best way(s) to do it might look like.

Also, it would be good to know what your plans are for development of our [REDACTED] (b) (4), if any. [REDACTED] (b) (4)

[REDACTED] I don't know if that would be helpful or if you already have this covered for the [REDACTED] (b) (4)

Would it be worth a short phone call sometime this week to circle back, update each other, and decide on next steps?

Thanks,
and hope you all had a chance to recharge this weekend,
Neil

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 17 Mar 2020 19:25:23 +0000
To: Young, Monique (NIH/VRC) [E]
Subject: RE: Webex meeting invitation: [COVID-19] Modelling - 4th Telecon details

Yes, unfortunately.

BG

From: Young, Monique (NIH/VRC) [E] (b) (6) >
Sent: Tuesday, March 17, 2020 2:52 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: RE: Webex meeting invitation: [COVID-19] Modelling - 4th Telecon details

Good Afternoon –

Do you need to join this call? The invite was on the calendar.

If so, I will need to move Jason.

Thanks...Monique

(b) (6)

-----Original Appointment-----

From: Pierre GSELL <(b) (6)>
Sent: Saturday, March 14, 2020 3:01 PM
To: Pierre GSELL; (b) (6);

(b) (6)

(b) (6); Carolyn Clark;

(b) (6)

(b) (6); Julia Tree;

(b) (6) Carroll, Miles; (b) (6) Simon Funnell;

Yper Hall; (b) (6)

(b) (6) Graham, Barney (NIH/VRC) [E]; Roy, Chad; Florence, Clint (NIH/NIAID) [E];
(b) (6)
(b) (6); De wit, Emmie (NIH/NIAID) [E]; Stemmy,
Erik (NIH/NIAID) [E]; (b) (6)
Golding, Hana (FDA/CBER);
J (b) (6); Little, James (OS/ASPR/BARDA); Treanor, John
(OS/ASPR/BARDA) (CTR); (b) (6) Erlandson, Karl (OS/ASPR/BARDA);
(b) (6); Jayashankar, Lakshmi (OS/ASPR/BARDA);
Hensley, Lisa (NIH/NIAID) [E]; (b) (6) Lewis, Mark; (b) (6);
Holbrook, Michael (NIH/NIAID) [C]; (b) (6) Thornburg,
Natalie (CDC/DDID/NCIRD/DVD); (b) (6) Krause, Philip (FDA/CBER); Baric, Ralph;
(b) (6); Levis, Robin (FDA/CBER); Hild, Sheri (NIH/OD)
[E]; (b) (6); Wang,
Tony (FDA/CBER); (b) (6) Munster, Vincent (NIH/NIAID) [E]
Subject: Webex meeting invitation: [COVID-19] Modelling - 4th Telecon details
When: Thursday, March 19, 2020 1:00 PM-2:30 PM (UTC+00:00) Dublin, Edinburgh, Lisbon, London.
Where: (b) (6)

Dear COVID-19 modelling group participant, thank you for your continued participation in this growing international collaboration. Please find attached the Webex dial-in details for our next COVID-19 modelling *ad hoc* experts, regulators and funders telecon.

Our agenda for the 19th March will include;

1. Introduction followed by verbal updates on
 1. Non-human primate studies
 2. Ferret studies
 3. Murine studies
 4. Any other infection modelling studies
1. Update on the current emergency use situation
2. Identification of what we can do now to provide regulators confidence to proceed with Phase 1 vaccine studies
3. Identification of what we can do now to accelerate the identification and use of therapeutics as soon as possible
4. AOB

Please email us slides (no more than 3 for a 5 minute talk) if you have an update you would like to share with us.

We need to hear from all of you if you have live or recently completed studies especially related to disease enhancement if it occurs.

Please note that we intend to keep to a weekly Thursday telecon schedule for the time being in order to help attendees plan their participation in what we know are challenging circumstances for all.

There are many participants so please mute your microphone unless invited to speak by Pierre to avoid feedback and assist orderly communication between participants. Please also use a headset where possible as speakerphones tend to be source of feedback problems.

If you cannot attend this call, please update the growing excel summary table found in the sharepoint drive and view the presentations of this and previous calls. Access to the sharepoint drive is also included as a reminder;

(b) (6), (b) (4)

You will also find minutes of our previous calls in the meetings subdirectory. Your contributions have already led to refinement and continued input will help reduce unnecessary replication of global effort.

Pierre GSELL invites you to join this Webex meeting.

Meeting number (access code): (b) (6)

Meeting password:

(b) (6)

Thursday, March 19, 2020

2:00 pm | (UTC+01:00) Brussels, Copenhagen, Madrid, Paris | 1 hr 30 mins

[Join meeting](#)

Join by phone

Tap to call in from a mobile device (attendees only)

[41445750282](tel:41445750282) SWITZERLAND Toll

[+1-415-655-0003](tel:+1-415-655-0003) US Toll

[Global call-in numbers](#)

Join from a video system or application

Dial [REDACTED] (b) (6)

You can also dial [REDACTED] (b) (6) and enter your meeting number.

Join using Microsoft Lync or Microsoft Skype for Business

Dial [REDACTED] (b) (6)

Need help? Go to <http://help.webex.com>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 21 Apr 2020 11:04:06 +0000
To: Rino Rappuoli
Subject: Re: Scheduling Vaccinology eSymposia- Monday, June 15 & Tuesday, June 16, 2020

Thanks Rino. Yes, I can make myself available those days.

Best wishes and take care,

Barney

Sent from my iPhone

On Apr 21, 2020, at 5:05 AM, Rino Rappuoli <(b) (6)> wrote:

Dear Barney,

I am contacting you because on June 15-16 we are planning to hold a virtual event covering the key topics of the Keystone symposium on "Transforming Vaccinology," that unfortunately we had to cancel because of Covid-19. I believe that in such a difficult moment it is important to keep the vaccine community connected and I hope you will agree to deliver a 15-min talk on June 15 about "Immunogen design strategies for Covid, RSV, influenza and other enveloped viruses."

A draft agenda of the virtual event is attached. I would appreciate if you could confirm your availability.

Detailed information on the logistics and how to prepare a "virtual" talk will be provided shortly by the Keystone symposia organization.

Ciao, Rino

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<Vaccinology eSymposia_DRAFT Program Description & Schedule.docx>

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 20 Apr 2020 13:48:17 +0000
To: Hiatt, Nissa (NIH/VRC) [C]
Cc: Routh, Jennifer (NIH/NIAID) [E]; Oplinger, Anne (NIH/NIAID) [E]
Subject: FW: PBS NewsHour piece on vaccine research in progress

FYI. I hadn't heard about this one yet.

Barney

From: Neil King (b) (6) >
Sent: Monday, April 20, 2020 8:38 AM
To: Fedor Kossakovski (b) (6); Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6) >; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Re: PBS NewsHour piece on vaccine research in progress

Hi Fedor,

Apologies for the delayed response. I am connecting you here to Barney Graham and Kizzmekia Corbett from the NIAID Vaccine Research Center -- I hope it's still useful given that you are now airing tomorrow. Barney and Kizzmekia probably know more about Coronavirus vaccines than anyone else in the world (no pressure, you two!). I am sure they could answer any questions you might have, if they have a moment -- they have both been working around the clock for quite a while now.

Barney and Kizzmekia, Fedor has been working with Miles O'Brien on an [in-depth piece on COVID-19](#).

Fedor, I'm around this morning until 8am Pacific time -- feel free to reach me at (b) (6).

Neil

On Sat, Apr 18, 2020 at 7:44 AM Fedor Kossakovski (b) (6) > wrote:
Hey Neil!

Hope you're doing well. Wanted to let you know that we are planning on featuring your visit/conversation with Miles this Tuesday, 4/21, on the PBS NewsHour. This will be for a segment about coronavirus vaccines -- basics of the science and where we are now.

Would love to hop on phone briefly today if possible, get your thoughts. A lot has changed in the ~month since Miles interviewed you, I'm sure! Also, would be helpful if you could connect us with someone who's already entered trials, like the Moderna/NIH team (put in request for Drs. Corbett or Graham).

Let me know if you're available! You can call me on my cell: (b) (6) Thanks!

Best,
Fedor

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 29 Jan 2020 17:49:31 +0000
To: Zelazny, Adrian (NIH/CC/DLM) [E]
Cc: Das, Sanchita (NIH/CC/DLM) [E]; Morabito, Kaitlyn (NIH/VRC) [E]
Subject: Re: Coronavirus PCR

Hi Adrian,

We have avoided having [REDACTED] (b) (4)
[REDACTED] (b) (4)

We have been in touch with Natalie Thornberg at CDC in their diagnostics group. She developed the PCR that has diagnosed the current US cases. I'm sure she has developed some controls.

Best wishes,

Barney

Sent from my iPhone

On Jan 29, 2020, at 6:41 PM, Zelazny, Adrian (NIH/CC/DLM) [E] [REDACTED] (b) (6) wrote:

Dear Dr. Graham,

This is Adrian Zelazny from the Microbiology Service at NIH CC. I was referred to you by Tara Palmore, head of Hospital Epidemiology. She has been in communication with [REDACTED] (b) (5)
[REDACTED] (b) (5)
[REDACTED]

We were wondering if you have and could [REDACTED] (b) (5)
[REDACTED] (b) (5)

I presume [REDACTED] (b) (5) but perhaps [REDACTED] (b) (5)
[REDACTED]

In addition, [REDACTED] (b) (5)
[REDACTED]

We truly appreciate your help.

Best regards
Adrian

Adrian M. Zelazny, Ph.D., D(ABMM)

Chief, Microbiology Service
Director of Mycobacteriology
Director of Clinical Microbiology Fellowship
Department of Laboratory Medicine
Clinical Center
National Institutes of Health
Building 10, Room 2C-385
10 Center Drive MSC 1508
Bethesda, MD 20892-1508
[REDACTED] (b) (6)

Ph: [REDACTED] (b) (6)
Fax: (301) 402-1886

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 30 Mar 2020 14:02:50 +0000
To: Bok, Karin (NIH/VRC) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]
Subject: Re: Coronavirus research at VRC
Attachments: image001.png

I think they should [REDACTED] (b) (5), (b) (4).

BG

Sent from my iPhone

On Mar 30, 2020, at 9:50 AM, Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6) wrote:

What do we think about this. I thought [REDACTED] (b) (5).

Karin.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health
phone: [REDACTED] (b) (6) mobile: [REDACTED] (b) (6) | email: [REDACTED] (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: Rebecca Farkas [REDACTED] (b) (6)
Date: Sunday, March 29, 2020 at 10:44 AM
To: Karin Bok [REDACTED] (b) (6)
Subject: Coronavirus research at VRC

Hi Karin,

I hope you are doing well – I imagine covid has you quite busy these days!

(b) (4)

A few questions have come up about (b) (4) Would you have time for a quick call on Monday, March 30? I'm available between 10-11 and after 1.

Best,
Rebecca

Rebecca Farkas, PhD

Director, External R&D, Scientific Collaborations
GSK Vaccines

Slaoui Center for Vaccines Research

14200 Shady Grove Road
Rockville, Maryland 20850

Email (b) (6)

Mobile (b) (6)

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<image001.png>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Jan 2020 18:09:41 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]
Cc: Cassetti, Cristina (NIH/NIAID) [E]; Marston, Hilary (NIH/NIAID) [E]; Embry, Alan (NIH/NIAID) [E]
Subject: Re: [REDACTED] (b) (6)
development @ Clover Biopharma

Thanks Cristina,

I would recommend [REDACTED] (b) (4)
[REDACTED]

BG

Sent from my iPhone

On Jan 23, 2020, at 1:01 PM, Morabito, Kaitlyn (NIH/VRC) [E]
<[REDACTED] (b) (6)> wrote:

Hi Cristina,

We're always to happy to share our protocols and reagents ([REDACTED] (b) (4), (b) (5)) We don't
have any [REDACTED] (b) (4), (b) (5)
[REDACTED] (b) (4), (b) (5)

Best,
Kaitlyn

From: "Cassetti, Cristina (NIH/NIAID) [E]" <[REDACTED] (b) (6)>
Date: Thursday, January 23, 2020 at 12:56 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" <[REDACTED] (b) (6)>, Barney Graham
[REDACTED] (b) (6)
Cc: Hilary Marston [REDACTED] (b) (6)>, "Embry, Alan (NIH/NIAID) [E]"
<embrya@niaid.nih.gov>
Subject: FW: [REDACTED] (b) (4)
development @ Clover Biopharma

Hi,

Dr. Fauci asked me to respond to this enquiry. I am going to get back to them to set up a call with some folks in DMID to learn about their approach and discuss different funding opportunities at NIAID that could be available for this.

Do you know this group? [REDACTED] (b) (4), (b) (5)
[REDACTED] If so, I will loop you in the response.

Thank you,

Cristina

From: Steven GONG [REDACTED] (b) (6) >
Sent: Wednesday, January 22, 2020 5:57 AM
To: Fauci, Anthony (NIH/NIAID) [E] < [REDACTED] (b) (6) >
Subject: [REDACTED] (b) (4) development @ Clover Biopharma
Importance: High

Dear Professor Fauci,

This is Steven GONG from Clover Biopharma. I am writing to inform you that Clover has started development of a [REDACTED] (b) (4), and we would like to seek your advice and see if there are any potential collaboration opportunities with NIAID.

Clover is a global, clinical-stage and VC-backed biopharmaceutical company, and our novel & proprietary *Trimer-Tag*[®] **Technology** platform can be used produce covalently-trimerized fusion proteins to target trimerization-dependent pathways. Applications include targeting TNF superfamily cytokines for oncology, as well as [REDACTED] (b) (6)

[REDACTED] (b) (4)

I hope that Clover's innovative subunit-trimer vaccines platform could be of some help in assisting CDC/NIAID in rapidly developing a viable coronavirus vaccines. We will keep you posted on our progress on this as more data will be come out in next couple of weeks, and we appreciate your comments on our approach and to see if there are any interests of NIAID to collaborate.

Steven GONG | 龚东屹

Clover Biopharmaceuticals | 三叶草生物制药

(b) (6)

VP, BD & Strategy | 副总裁, 业务发展和战略

M: (b) (6)

www.cloverbiopharma.com

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 16 Mar 2020 19:23:59 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: [REDACTED] (b) (4)

[REDACTED] (b) (5), (b) (4)

BG

From: Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Monday, March 16, 2020 3:20 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Cc: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6) >
Subject: Re: [REDACTED] (b) (4)

And are we good on sending them [REDACTED] (b) (4)

From: Barney Graham [REDACTED] (b) (6) >
Date: Monday, March 16, 2020 at 3:16 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" [REDACTED] (b) (6)
Subject: RE: [REDACTED] (b) (4)

For the [REDACTED] (b) (5), (b) (4)

Barney

From: Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Monday, March 16, 2020 3:05 PM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED] (b) (6)>
Subject: FW: [REDACTED] (b) (4)

Need a final decision from you on this. I would opt to [REDACTED] (b) (4), (b) (5) because John [REDACTED] (b) (4), (b) (5).

From: Judy Stein [REDACTED] (b) (6)
Date: Saturday, March 14, 2020 at 1:41 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" <[REDACTED] (b) (6)>, John Mascola [REDACTED] (b) (6)

Cc: Barney Graham [REDACTED] (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]"

[REDACTED] (b) (6)

Subject: RE: [REDACTED] (b) (4)

Hi,

I am back and can put together a hMTA for [REDACTED] (b) (4), [REDACTED] (b) today or tomorrow to move this along, if one is still needed.

Thanks

Judy

From: Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)

Sent: Friday, March 13, 2020 11:48 AM

To: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)

Cc: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6); Stein, Judy (NIH/VRC) [C]

[REDACTED] (b) (6)>

Subject: Re: [REDACTED] (b) (4)

Hi John,

Yes, we have been using an RCA for sharing the [REDACTED] (b) (4) samples. [REDACTED] (b) (4)

[REDACTED] (b) (4) had originally said they didn't want to include [REDACTED] (b) (4) [REDACTED] are so hard to come by. It may take a while to change this to a hRCA to send, and could use an MTA for speed if preferred. Otherwise, we can keep our standard of using an RCA for this.

The [REDACTED] (b) (4), [REDACTED] (b) (5) are shared via EUSLA, per TTIPO guidance.

Thanks,

Kaitlyn

From: John Mascola [REDACTED] (b) (6)>

Date: Friday, March 13, 2020 at 11:39 AM

To: "Morabito, Kaitlyn (NIH/VRC) [E]" [REDACTED] (b) (6)>

Cc: Barney Graham [REDACTED] (b) (6)>, Judy Stein [REDACTED] (b) (6)>

Subject: RE: [REDACTED] (b) (4)

And we have an RCA or similar?

Thanks,

John

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Sent: Friday, March 13, 2020 11:07 AM
To: Laura Walker (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)
Cc: Jason McLellan (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C] (b) (6); Mascola, John (NIH/VRC) [E] <(b) (6)>; Andrews, Charla (NIH/NIAID) [C] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)
Subject: Re: (b) (4)

Laura,

I can coordinate shipment. Can you please provide the shipping address?

Thanks,
Kaitlyn

From: Laura Walker <(b) (6)>
Date: Friday, March 13, 2020 at 6:34 AM
To: Barney Graham (b) (6)
Cc: Jason McLellan (b) (6), Judy Stein (b) (6), "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6), Kizzmekia Corbett (b) (6), Jason Gall (b) (6), John Mascola (b) (6)
Subject: Re: (b) (4)

Hi Barney,

I was notified yesterday that the agreement for the (b) (4) was signed. Will you let me know how to coordinate the shipment?

Cheers,
Laura

p.s. Best of luck on the vaccine front - we need you to save the world!

On Sun, Jan 26, 2020 at 11:55 AM Graham, Barney (NIH/VRC) [E] (b) (6) wrote:
Hi Laura,

I've copied Judy Stein who can help with the RCA. Kizzmekia Corbett is the scientific lead and Kaitlyn Morabito is the program manager.

As I mentioned to Jason, I think it makes sense to prove this (b) (4)

Best wishes,

Barney

Sent from my iPhone

On Jan 26, 2020, at 11:10 AM, Jason McLellan (b) (6) > wrote:

Hi Laura,

I spoke with Barney (Cc'd) this morning and he may be able to share with you some of their (b) (4), provided Adimab and NIAID can get the paperwork sorted out. Please follow up with Barney to get that process started. We can send you (b) (4) perhaps as early as this week.

Best regards,
Jason

Jason S. McLellan, Ph.D.
Associate Professor
Department of Molecular Biosciences
The University of Texas at Austin
4.320 Norman Hackerman Building
100 E 24th St., Austin, TX 78712
Tel. (b) (6)
(b) (6)

--

Laura M.Walker, Ph.D. | Director of Antibody Sciences | Adimab, LLC. | 7 Lucent Drive | Lebanon, NH 03766 | (b) (6) | (b) (6) | www.adimab.com

This message may be confidential and privileged. Use or disclosure by anyone other than an intended addressee is prohibited. If you received this message in error, please delete it and advise the sender by reply email.

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 13 Jan 2020 22:53:22 +0000
To: Kerr, Lawrence (HHS/OS/OGA)
Subject: Accepted: WHO-USG Teleconference on Wuhan Coronavirus Cooperation

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 5 Apr 2020 15:03:42 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: TC for Nexelis | VRC discussion of assays for nCOV-2019

Hi Kizzy,

[Redacted] (b) (5), (b) (4)

Barney

Sent from my iPhone

On Apr 5, 2020, at 2:49 AM, Corbett, Kizzmekia (NIH/VRC) [E] <[Redacted] (b) (6)> wrote:

[Redacted] (b) (5)

Sent from the mobile device of:
Kizzmekia S. Corbett, PhD
Senior Research Fellow
coVip Scientific Lead
VRC | NIAID | NIH
[Redacted] (b) (6)

From: "Luc Gagnon" <[Redacted] (b) (6)>
Date: Thursday, April 2, 2020 at 11:27:28 PM
To: "Bok, Karin (NIH/VRC) [E]" <[Redacted] (b) (6)>, "Karen Makar" <[Redacted] (b) (6)>, "Stein, Judy (NIH/VRC) [C]" <[Redacted] (b) (6)>, "Julien St-Jean" <[Redacted] (b) (6)>
Cc: "Petrik, Amy (NIH/NIAID) [E]" <[Redacted] (b) (6)>, "Gall, Jason (NIH/VRC) [C]" <[Redacted] (b) (6)>, "Graham, Barney (NIH/VRC) [E]" <[Redacted] (b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" <[Redacted] (b) (6)>, "Corbett, Kizzmekia (NIH/VRC) [E]" <[Redacted] (b) (6)>, "Young, Monique (NIH/VRC) [E]" <[Redacted] (b) (6)>
Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Dear Karin,

I was pushing my luck to further expedite the transfer and totally understand the situation.

Could you please let me know if you will be able to send [REDACTED] (b) (4)

I also forgot to mention that the protocol are currently being adapted to fit our platforms and way of working. I will get back to you if we have any questions.

Thank you again for you support.

Have a great day (and be all safe!)

Luc

From: Bok, Karin (NIH/VRC) [E] <[REDACTED] (b) (6)>
Sent: April 1, 2020 11:36 AM
To: Luc Gagnon [REDACTED] (b) (6); Karen Makar [REDACTED] (b) (6); Stein, Judy (NIH/VRC) [C] <[REDACTED] (b) (6)>; Julien St-Jean <[REDACTED] (b) (6)>
Cc: Petrik, Amy (NIH/NIAID) [E] [REDACTED] (b) (6); Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6); Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6); Young, Monique (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: [JUNK] Re: TC for Nexelis | VRC discussion of assays for nCOV-2019

Dear Luc,

Very happy to hear that the reagents arrived from VRC to Nexelis. We are very encouraged by Nexelis' plans to implement these assays and contribute to the pandemic response.

Unfortunately, VRC will not be able to [REDACTED] (b) (4)
[REDACTED] We have a very restricted amount of [REDACTED] (b) (4)
[REDACTED] This is the
main reason why we are open and able to only share [REDACTED] (b) (4) with our colleagues and
collaborators.

We remain as always available to provide any technical advice that you and your team might need to develop these assays successfully.

Best regards,

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: [REDACTED] (b) (6) mobile: [REDACTED] (b) (6) email: [REDACTED] (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: Luc Gagnon (b) (6) >
Date: Tuesday, March 31, 2020 at 10:18 PM
To: Karin Bok <(b) (6)>, Karen Makar <(b) (6)>, "Stein, Judy (NIH/VRC) [C]" (b) (6), Julien St-Jean (b) (6)
Cc: "Petrik, Amy (NIH/NIAID) [E]" (b) (6) >, "Gall, Jason (NIH/VRC) [C]" (b) (6) >, "Graham, Barney (NIH/VRC) [E]" (b) (6), "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6) >, "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Young, Monique (NIH/VRC) [E]" (b) (6) >, "Stein, Judy (NIH/VRC) [C]" (b) (6) >
Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Dear Karin,

I hope you are doing well.

First of all, I would like to confirm that the (b) (4) were received in good conditions (see attached document) (thank you !)

We have been asked to (b) (4)

To do so, I would propose (b) (4)

(b) (4)

We can schedule a TC to further discuss if needed.

Thank you so much for your support.

Best regards,

Luc

From: Bok, Karin (NIH/VRC) [E] (b) (6)
Sent: March 10, 2020 10:37 AM
To: Karen Makar <(b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6); Luc Gagnon <(b) (6)>; Julien St-Jean (b) (6)
Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Young, Monique (NIH/VRC) [E] (b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)>
Subject: Re: TC for Nexelis | VRC discussion of assays for nCOV-2019

Dear Dr. Makar,

I understand we have a draft of the MTA ready to be signed, and we need to add a list of materials to be transferred.

I know we had discussed transferring the (b) (4)

Is there anything else you need to set up your assays?

We would prefer to send you the materials asap, and reply to any questions you might have via email.

Since we discussed this topic during the BMGF visit the week before, we think it would be best to not have another meeting so soon.

Thank you, let me know the list of materials so we can arrange shipment, and we would be happy to answer Nexelis' questions via email.

Best,

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: (b) (6) | mobile: (b) (6) email: (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: Karen Makar <(b) (6)>

Date: Monday, March 2, 2020 at 1:23 PM

To: "Stein, Judy (NIH/VRC) [C]" <(b) (6)>, Karin Bok <(b) (6)>, (b) (6)

Cc: "Petrik, Amy (NIH/NIAID) [E]" <(b) (6)>, "Gall, Jason (NIH/VRC) [C]" <(b) (6)>, "Graham, Barney (NIH/VRC) [E]" <(b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)>, "Corbett, Kizzmekia

(NIH/VRC) [E]" [REDACTED] (b) (6)

Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Thanks, Judy! I think as written.

(b) (4)

(b) (4)

[REDACTED]
[REDACTED] (b) (4). Do you have thoughts on how to thread that needle? I'm speaking with our legal counsel later today.

Karen

From: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)

Sent: Monday, March 2, 2020 9:32 AM

To: Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6); Karen Makar [REDACTED] (b) (6)

Cc: Petrik, Amy (NIH/NIAID) [E] [REDACTED] (b) (6)>; Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6); Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)>

Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Hi Karen,

I have attached the standard SLA that we are using for this transfer.

If you could fill in the highlighted sections and the signature block and send this back to me, we would appreciate it. Can you please indicate [REDACTED] (b) (4)

(b) (4)

we will review and then let you know if any other changes are needed.

Thanks very much.

Judy

[REDACTED] (b) (6)

From: Bok, Karin (NIH/VRC) [E] (b) (6)>
Sent: Monday, March 2, 2020 12:23 PM
To: Karen Makar <(b) (6)>
Cc: Stein, Judy (NIH/VRC) [C] <(b) (6)>; Petrik, Amy (NIH/NIAID) [E] (b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6)>; Young, Monique (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Subject: Re: TC for Nexelis | VRC discussion of assays for nCOV-2019

Dear Dr. Makar,

During our meeting with BMGF on Friday, we agreed that we could share the (b) (4) I think the fastest way to help your project, would be to avoid the call and just set up an MTA to share reagents, and we could also share SOPs.

Miss Stein copied here can help start the process.

Let me know if this works,

Best Regards,

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: (b) (6) mobile: (b) (6) email: (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: Karen Makar <[REDACTED] (b) (6)>
Date: Monday, March 2, 2020 at 11:02 AM
To: "Graham, Barney (NIH/VRC) [E]" [REDACTED] (b) (6)>, "Corbett, Kizzmekia (NIH/VRC) [E]" [REDACTED] (b) (6)>, "Young, Monique (NIH/VRC) [E]" [REDACTED] (b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" <[REDACTED] (b) (6)>, [REDACTED] (b) (6)
Cc: "Stein, Judy (NIH/VRC) [C]" [REDACTED] (b) (6)>, Karin Bok [REDACTED] (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]" [REDACTED] (b) (6)>, "Gall, Jason (NIH/VRC) [C]" [REDACTED] (b) (6)>, "Young, Monique (NIH/VRC) [E]" [REDACTED] (b) (6)>
Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Hi Monique,

Due to the new COVID-19 outbreak in Seattle, I am no longer travelling. Thus I am available for this call anytime today and anytime tomorrow except 8:30-10am eastern. We would like to have the contract & MTA executed and materials shipped this week given the urgency, so happy to be flexible.

Thanks,

Karen

From: Karen Makar
Sent: Thursday, February 27, 2020 12:03 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)>; Young, Monique (NIH/VRC) [E] [REDACTED] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)>; [REDACTED] (b) (6)
Cc: Stein, Judy (NIH/VRC) [C] <[REDACTED] (b) (6)>; Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6)>; Petrik, Amy (NIH/NIAID) [E] [REDACTED] (b) (6)>; Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6)>; Young, Monique (NIH/VRC) [E] [REDACTED] (b) (6)>

(b) (6)>

Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Thank you, Barney. Yes, I expect this will come up tomorrow too.

Karen

From: Graham, Barney (NIH/VRC) [E] <(b) (6)>

Sent: Thursday, February 27, 2020 12:00 PM

To: Karen Makar <(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Young, Monique (NIH/VRC) [E] <(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>

Cc: Stein, Judy (NIH/VRC) [C] <(b) (6)>; Bok, Karin (NIH/VRC) [E] <(b) (6)>; Petrik, Amy (NIH/NIAID) [E] <(b) (6)>; Gall, Jason (NIH/VRC) [C] <(b) (6)>; Young, Monique (NIH/VRC) [E] <(b) (6)>

Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

I'll ask Monique Young to coordinate the call.

I assume this will also be a topic at our meeting with BMGF people here at NIH tomorrow afternoon.

Thank you.

Barney

From: Karen Makar <(b) (6)>

Sent: Thursday, February 27, 2020 2:14 PM

To: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Morabito, Kaitlyn

(NIH/VRC) [E] [REDACTED] (b) (6)

Cc: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>; Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6); Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6)>; Petrik, Amy (NIH/NIAID) [E] [REDACTED] (b) (6)>; Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6)>; Young, Monique (NIH/VRC) [E] [REDACTED] (b) (6)>

Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Hi Kizzmekia,

I do think it is probably easier for you to schedule this meeting. Nexelis folks- can you please provide your availability for the following windows so Kizzmekia can coordinate?

Monday 4:30pm ET onwards

Tuesday 10am ET onwards

Wednesday prior to 5pm ET

Karen

Karen Makar, Ph.D.

Senior Program Officer & GH-VAP Manager
Discovery & Translational Sciences

V [REDACTED] (b) (6)

C [REDACTED] (b) (6)

E [REDACTED] (b) (6)

Program Assistant: [REDACTED] (b) (6)

[REDACTED] (b) (6)

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From: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>
Sent: Thursday, February 27, 2020 10:00 AM
To: Karen Makar <(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>
Cc: Stein, Judy (NIH/VRC) [C] <(b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)>; Bok, Karin (NIH/VRC) [E] <(b) (6)>; Petrik, Amy (NIH/NIAID) [E] <(b) (6)>; Gall, Jason (NIH/VRC) [C] <(b) (6)>; Young, Monique (NIH/VRC) [E] <(b) (6)>
Subject: Re: TC for Nexelis | VRC discussion of assays for nCOV-2019

Great, here are our attendees. Off top, I can say we are unavailable Monday am.

VRC Attendees:

Barney Graham via Monique Young

Kizzmekia Corbett

Kaitlyn Morabito

Jason Gall

Judy Stein

Amy Petrik

Karin Bok (optional)

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

From: Karen Makar <(b) (6)>
Date: Thursday, February 27, 2020 at 12:57 PM
To: Kizzmekia Corbett (b) (6)>, Kaitlyn Morabito (b) (6)>, Greg Kulnis (b) (6)>, (b) (6), (b) (6), Julie Lauzon <(b) (6)>
Cc: "Stein, Judy (NIH/VRC) [C]" (b) (6)>, Barney Graham (b) (6), "Bok, Karin (NIH/VRC) [E]" (b) (6), "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, "Gall, Jason (NIH/VRC) [C]" <(b) (6)>, "Lynda, Stuart" (b) (6), David Vaughn (b) (6)>, Max Silverman (b) (6), Jacqueline Kirchner <(b) (6)>, Monique Young (b) (6)
Subject: RE: TC for Nexelis | VRC discussion of assays for nCOV-2019

Very happy to have to own the calendar invite. I'm the only required person from BMGF, the others are optional. I'll let Nexelis provide their availability but they have been very flexible and responsive.

Karen

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Sent: Thursday, February 27, 2020 9:53 AM
To: Karen Makar (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E]
(b) (6) Greg Kulnis (b) (6)>;
(b) (6); Julie Lauzon
(b) (6).
Cc: Stein, Judy (NIH/VRC) [C] (b) (6); Graham, Barney (NIH/VRC) [E]
(b) (6); Bok, Karin (NIH/VRC) [E] <(b) (6)>; Petrik, Amy
(NIH/NIAID) [E] (b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6)>;
Lynda Stuart (b) (6)>; David Vaughn
(b) (6); Max Silverman (b) (6)>;
Jacqueline Kirchner (b) (6)>; Young, Monique (NIH/VRC)
[E] (b) (6)>
Subject: Re: TC for Nexelis | VRC discussion of assays for nCOV-2019

Okay, There are several people from our side to be on the call so maybe it's best to schedule through our side? If you agree, Monique Young, cc'ed can help us with that.

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

From: Karen Makar <(b) (6)>
Date: Thursday, February 27, 2020 at 12:46 PM
To: Kizzmekia Corbett (b) (6)>, Kaitlyn Morabito (b) (6), Greg Kulnis <(b) (6)>, (b) (6)
Julie Lauzon (b) (6)>
Cc: "Stein, Judy (NIH/VRC) [C]" (b) (6)>, Barney Graham (b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, "Gall, Jason (NIH/VRC) [C]" (b) (6), "Lynda, Stuart" <(b) (6)>, David Vaughn <(b) (6)>, Max Silverman (b) (6)>, Jacqueline Kirchner <(b) (6)>
Subject: TC for Nexelis | VRC discussion of assays for nCOV-2019

Hi Kizzmekia,

Thanks very much for your flexibility and your willingness to collaborate with us. (b) (4)

Several of our team are visiting the VRC today and tomorrow, so perhaps a call with Nexelis early next week would be ideal? I'm on a plane most of Monday but could do early (8am-10am ET) or late (4pm onwards ET) and will be on the East Coast Tuesday & Wednesday with a flexible schedule. Could you please advise which times would work best for your side?

Amy & Judy- Julie Lauzon and Greg Kulnis are the right folks to start with for MTA/legal discussions.

We are looking forward to working with you,

Karen

Karen Makar, Ph.D.

Senior Program Officer & GH-VAP Manager
Discovery & Translational Sciences

V [REDACTED] (b) (6)

C + [REDACTED] (b) (6)

E [REDACTED] (b) (6)

Program Assistant: [REDACTED] (b) (6)

[REDACTED] (b) (6)

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From: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6) >
Sent: Tuesday, February 18, 2020 5:36 AM
To: Karen Makar [REDACTED] (b) (6) >; Morabito, Kaitlyn (NIH/VRC) [E]
[REDACTED] (b) (6) >
Cc: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6) >; Graham, Barney (NIH/VRC) [E]
[REDACTED] (b) (6) >; Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6) >; Petrik, Amy
(NIH/NIAID) [E] [REDACTED] (b) (6) >; Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6) >;
Lynda Stuart [REDACTED] (b) (6) >; David Vaughn [REDACTED] (b) (6) >;
[REDACTED] (b) (6) >; Max Silverman [REDACTED] (b) (6) >
Subject: Re: List of assays for nCOV-2019 [REDACTED] (b) (4)

I'm available next week, & generally rather flexible. Best for times to come from that direction from your direction. Or that we have a standing meeting until things are ironed out.

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

From: "Karen Makar" <[REDACTED]> (b) (6)>
Date: Tuesday, February 18, 2020 at 12:18:34 AM
To: "Corbett, Kizzmekia (NIH/VRC) [E]" <[REDACTED]> (b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" <[REDACTED]> (b) (6)>
Cc: "Stein, Judy (NIH/VRC) [C]" <[REDACTED]> (b) (6)>, "Graham, Barney (NIH/VRC) [E]" <[REDACTED]> (b) (6)>, "Bok, Karin (NIH/VRC) [E]" <[REDACTED]> (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]" <[REDACTED]> (b) (6)>, "Gall, Jason (NIH/VRC) [C]" <[REDACTED]> (b) (6)>, "Lynda, Stuart" <[REDACTED]> (b) (6)>, "David Vaughn" <[REDACTED]> (b) (6)>, <[REDACTED]> (b) (6)>, "Max Silverman" <[REDACTED]> (b) (6)>
Subject: RE: List of assays for nCOV-2019 <[REDACTED]> (b) (4)

Thank you, Kaitlyn! This is very helpful. We'll work on [REDACTED] (b) (4) based on this feedback and will also work to connect your team with the Nexelis team to talk practicalities in the near future. I am OOO this week, but perhaps you have some availability the week after?

Best,

Karen

From: Corbett, Kizzmekia (NIH/VRC) [E] <[REDACTED]> (b) (6)>
Sent: Monday, February 17, 2020 9:23 AM
To: Karen Makar <[REDACTED]> (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] <[REDACTED]> (b) (6)>
Cc: Stein, Judy (NIH/VRC) [C] <[REDACTED]> (b) (6)>; Graham, Barney (NIH/VRC) [E] <[REDACTED]> (b) (6)>; Bok, Karin (NIH/VRC) [E] <[REDACTED]> (b) (6)>; Petrik, Amy (NIH/NIAID) [E] <[REDACTED]> (b) (6)>; Gall, Jason (NIH/VRC) [C] <[REDACTED]> (b) (6)>; Lynda Stuart <[REDACTED]> (b) (6)>; David Vaughn <[REDACTED]> (b) (6)> <[REDACTED]> (b) (6)>; Max Silverman <[REDACTED]> (b) (6)>
Subject: Re: List of assays for nCOV-2019 <[REDACTED]> (b) (4)

Good afternoon all,

I took a look at the list. Here are my comments:



Let us know how we can help otherwise, whether by suggesting labs for certain aspects of this list or other.

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: [REDACTED] (b) (6)

Personal: [REDACTED] (b) (6)

Fax: (301) 480-2771

From: Karen Makar [REDACTED] (b) (6) >
Date: Friday, February 14, 2020 at 2:56 PM
To: Kaitlyn Morabito [REDACTED] (b) (6) >
Cc: "Stein, Judy (NIH/VRC) [C]" [REDACTED] (b) (6), Barney Graham [REDACTED] (b) (6) >, "Bok, Karin (NIH/VRC) [E]" [REDACTED] (b) (6) >, Kizzmekia Corbett < [REDACTED] (b) (6) >, "Petrik, Amy (NIH/NIAID) [E]" [REDACTED] (b) (6) >, "Gall, Jason (NIH/VRC) [C]" [REDACTED] (b) (6), "Lynda, Stuart" [REDACTED] (b) (6) >, David Vaughn < [REDACTED] (b) (6) >, Max Silverman [REDACTED] (b) (6)
Subject: List of assays for nCOV-2019 [REDACTED] (b) (4)

Dear Kaitlyn and team,

Thank you very much for your time yesterday discussing [REDACTED] (b) (4),

[REDACTED] I've attached the list we've put together so far as a starting point for your feedback. Thank you again for your support and partnership, I am looking forward to working together with you on this.

All the best,

Karen

Karen Makar, Ph.D.
Senior Program Officer & GH-VAP Manager
Discovery & Translational Sciences

v [REDACTED] (b) (6)

c [REDACTED] (b) (6)

E [REDACTED] (b) (6)

Program Assistant: [REDACTED] (b) (6)

[REDACTED] (b) (6)

Global Health-Vaccine Accelerator Platforms

www.ghvap.org

-----Original Appointment-----

From: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6) >

Sent: Thursday, February 13, 2020 6:44 AM

To: Stein, Judy (NIH/VRC) [C]; Karen Makar; Lynda Stuart; Graham, Barney (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Bok, Karin (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Petrik, Amy (NIH/NIAID) [E]; Gall, Jason (NIH/VRC) [C]

Subject: Call between BMGF and VRC/NIAID TTIPO to discuss potential arrangement with Nexelis for coronavirus

When: Thursday, February 13, 2020 12:00 PM-12:30 PM (UTC-05:00) Eastern Time (US & Canada).

Where: Teleconference number is below

Hi everyone,

Here is information for a meeting at noon. My apologies if it doesn't fit with everyone's schedule – we had wanted to have this initial discussion this week so we can determine how to move forward.

Thanks,

Judy

Call in: [REDACTED] (b) (6)

Leader passcode: [REDACTED] (b) (6)

Participant passcode: [REDACTED] (b) (6)

(b) (4)

I believe Barney has offered Lynda a (b) (4)

About Nexelis- they are an ex-GSK group in Canada which now functions as a CRO for assay development and implementation of large scale immune monitoring of vaccine clinical trials. They are comprised of GSK's former antigen discovery and immune monitoring units. They can handle protein production, assay development, preclinical standardized assays through to validated assays for large scale phase III trials and have partnerships with many large pharma companies as well as a strategic partnership with Public Health England. Our initial discussion has focused on (b) (4)

(b) (4)

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 13 Mar 2020 16:44:04 +0000
To: [REDACTED] (b) (6)
Subject: CoV

Hi [REDACTED] (b) (6)

The next few weeks are likely to be more difficult than many people can believe, although it seems that people are starting to make good decisions. Shutting down our sports entertainment industry was a good move, and many colleges and school systems have decided to close for a few weeks. In Maryland, our governor has asked that large gatherings cease, so our church has been canceled for at least two weeks. These steps will slow down the virus spread and hopefully spread out the burden on health care facilities and providers. The problems that were described in China and in Italy involved a very steep exponential increase in new cases, and even though the COVID-19 disease is not as pathogenic as MERS or SARS, at least during this first wave it appears to be more pathogenic than a typical seasonal influenza virus. If thousands of people are being infected in a short period of time and 10-20% require hospitalization then it is possible that hospitals would have a few weeks when there are not enough ICU beds or ventilators to take care of everyone needing that level of care. In that scenario it is better to be in the very beginning or very end of the wave so that there are adequate facilities to care for everyone.

If people practice the "social distancing" you've heard about on the news, and the exponential epidemic curve is flattened indicating the virus spread is slower, there is a good chance that this will unfold in a way that everyone will be able to get the care they need. It is almost impossible to completely stop the spread of a respiratory virus. They can adapt and are selected by successful transmission events. It is likely that nearly everyone will eventually be infected with this coronavirus and over a period of several years as there is more immunity in the general population the spread of the virus will be more contained. It also seems likely that it will eventually settle into a more seasonal pattern as the other 4 known endemic coronaviruses have done. In that case, most infections will happen during childhood when the virus seems to cause less severe disease.

More later.

[REDACTED] (b) (6)

Barney S. Graham, MD, PhD
Senior Investigator
Deputy Director, Vaccine Research Center
Chief, Viral Pathogenesis Laboratory
National Institute of Allergy and Infectious Diseases, NIH
40 Convent Drive, MSC 3017
Bldg 40, Room 2502
Bethesda, MD 20892-3017
Phone: [REDACTED] (b) (6)

URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 8 Apr 2020 22:29:19 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]; Bok, Karin (NIH/VRC) [E]
Subject: mRNA-1273 [REDACTED] (b) (5) Update_V3_BG
Attachments: mRNA-1273 [REDACTED] Update_V3_BG.docx

Here are my comments/edits on the [REDACTED] (b) (5)

I think that after this goes back to Kevin that either Kaitlyn or Kizzy should send to Moderna and DMID.

BG

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 17 Jan 2020 09:42:24 +0000
To: Neil King
Cc: Young, Monique (NIH/VRC) [E]; Ratika Krishnamurty; Kanekiyo, Masaru (NIH/VRC) [E]
Subject: RE: [REDACTED] (b) (4) - final due tomorrow Jan 17th
Attachments: Neil King collaboration 2020.docx, Graham BioSketch (b) (4) 2020.docx

Hi Masaru,

Please sign and ask Sarah Austin (or John if available) to initial, then send scanned document to Neil.

Thanks,

Barney

From: Neil King [REDACTED] (b) (6) >
Sent: Thursday, January 16, 2020 8:16 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Cc: Young, Monique (NIH/VRC) [E] [REDACTED] (b) (6); Ratika Krishnamurty [REDACTED] (b) (6)
Kanekiyo, Masaru (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: Re: [REDACTED] (b) (4) final due tomorrow Jan 17th

Haha, I didn't know! That's great, though!

San Clemente (T Street) is one of my favorite surf spots in Southern California!

Neil

On Thu, Jan 16, 2020 at 5:14 PM Graham, Barney (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:
How did you know? After the meeting I took the train to San Clemente to meet [REDACTED] (b) (6) for dinner.

BG



Sent from my iPhone

On Jan 16, 2020, at 4:49 PM, Neil King [REDACTED] (b) (6) > wrote:

Thanks Barney!

Enjoy the beach!! :)

Neil

On Thu, Jan 16, 2020 at 4:48 PM Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) > wrote:
Hi Neil. I'm on West coast (at Scripps). Before I go to bed tonight I will send my bio sketch to you and letter for John to sign that should come tomorrow. Sorry for late reply.

Barney

Sent from my iPhone

On Jan 16, 2020, at 4:20 PM, Neil King [REDACTED] (b) (6) wrote:

Hi Barney and Monique,

Monique, I talked to Masaru this evening and he let me know that Barney is traveling. I was wondering whether you might be able to send Ratika (cc'd) Barney's current Biosketch?

Masaru said [REDACTED] (b) (4)

Let me know if you have any questions,
and thanks,
Neil

----- Forwarded message -----

From: **Ratika Krishnamurty** [REDACTED] (b) (6) >

Date: Thu, Jan 16, 2020 at 9:43 AM

Subject: Re: [REDACTED] (b) (4) - final due tomorrow Jan 17th

To: Neil King [REDACTED] (b) (6), Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)

Cc: Kanekiyo, Masaru (NIH/VRC) [E] [REDACTED] (b) (6)

Hi Barney and Masaru

Our internal deadline for all business documents (which includes the requested ones below) is tomorrow, Jan 17th.

Can you please provide these documents ASAP?

Please let me know,

Ratika

--
Ratika Krishnamurty, PhD (she/her)
Research Manager | Institute for Protein Design
University of Washington

[REDACTED] (b) (6)

From: Ratika Krishnamurty (b) (6) >
Date: Monday, January 13, 2020 at 3:12 PM
To: Neil King (b) (6), "Graham, Barney (NIH/VRC) [E]" (b) (6)
Cc: "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6) >
Subject: Re: (b) (4)

Hi Barney and Masaru

A reminder that we are hoping to receive the below requested (b) (4) docs by this Wednesday January 15th.

1. NIH Biosketch (Graham)

(b) (4)

Thanks and let me know if you have any questions!

Ratika

From: Ratika Krishnamurty (b) (6) >
Date: Wednesday, January 8, 2020 at 8:48 AM
To: Neil King (b) (6) >, "Graham, Barney (NIH/VRC) [E]" (b) (6)
Cc: "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6)
Subject: Re: (b) (4)

Great – thank you Barney and Masaru! I'll plan to send a reminder early next week. We appreciate your work on this.

Happy new year!

From: Neil King (b) (6) >
Date: Wednesday, January 8, 2020 at 5:51 AM
To: "Graham, Barney (NIH/VRC) [E]" (b) (6) >
Cc: Ratika Krishnamurty <(b) (6)>, "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6) >
Subject: Re: (b) (4)

Thanks Barney! And please note that while the NIH due date is Feb 5, Ratika's due date of January 15th is the relevant one.

Yes, we should definitely chat to coordinate our talks. And we've been discussing over here (b) (4) (b) (4) and I'd like to get your opinion on our current thinking. Maybe we can hop on the phone briefly to discuss both sometime this week? Early mornings (5:30-7am Pacific) are generally open for me.

Thanks,
Neil

On Wed, Jan 8, 2020, 5:46 AM Graham, Barney (NIH/VRC) [E] (b) (6) > wrote:
Thanks Neil,

We can take care of this.

Happy New Year. It should be an exciting one.

We need to talk about how to distinguish our Keystone talks and complement each other as much as possible.

BG

Sent from my iPhone

On Jan 6, 2020, at 11:23 PM, Neil King (b) (6) > wrote:

Hi guys,

Let us know if you need any specific information to write the letters, or if you'd like us to provide draft letters for you to edit. Here are the logistical details:

(b) (4)

Thanks,
Neil

On Mon, Jan 6, 2020 at 6:38 PM Ratika Krishnamurty (b) (6) > wrote:
Hi Barney and Masaru

Happy New Year! We have started pulling together material for the (b) (4)
(b) (4)

We will need the following items:

1. NIH Biosketch (Graham)

(b) (4)

We'd like these no later than **Wednesday, January 15th**. Please let me know if that date works for you and if you have any question on the above items.

Thanks!

Ratika

--

Ratika Krishnamurty, PhD (she/her)
Research Manager | Institute for Protein Design
University of Washington

(b) (6)

<image001.png>

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 11 Feb 2020 12:02:38 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Slide(s) from Kizzmekia Re: VRC nCoV vaccine

Thanks Kizzy.

BG

-----Original Message-----

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Sent: Tuesday, February 11, 2020 6:51 AM
To: Embry, Alan (NIH/NIAID) [E] (b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] (b) (6)>; Jason McLellan <(b) (6)>;
Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Bok, Karin (NIH/VRC) [E] (b) (6)>
Subject: Slide(s) from Kizzmekia Re: VRC nCoV vaccine

Good morning Alan,

Attached you will find 3 slides that you are free to use for NVAC. It is my understanding that NVAC is a top-down view so slides 2 and 3 are best, but I couldn't resist including data so slide 1 is an option as well. I included verbatim how I would describe these slides to the audience at hand in the notes.

Let us know if you need anything else.

Cheers,

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead Coronavirus Vaccines & Immunopathogenesis (coVip) Team Viral Pathogenesis Laboratory | Vaccine Research Center National Institutes of Allergy and Infectious Diseases National Institutes of Health

Building 40 Room 2608

40 Convent Drive

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Personal: (b) (6)

Fax: (301) 480-2771

On 2/9/20, 6:18 PM, "Embry, Alan (NIH/NIAID) [E]" (b) (6)> wrote:

Thursday. Im supposed to have them in by Wed at the latest.

Thank you!!

Sent from my iPhone

> On Feb 9, 2020, at 6:06 PM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) wrote:

>

> Alan, when is your meeting? Want to include something that is being submitted tomorrow.

>

> --

> Kizzmekia S. Corbett, PhD
> Senior Research Fellow | Scientific Lead
> Coronavirus Vaccines & Immunopathogenesis (coVip) Team
> Viral Pathogenesis Laboratory | Vaccine Research Center
> National Institutes of Allergy and Infectious Diseases
> National Institutes of Health

>

> Building 40 Room 2608

> 40 Convent Drive

> Bethesda MD 20892

> Laboratory: (b) (6)

> Personal: (b) (6)

> Fax: (301) 480-2771

>

>

> On 2/8/20, 12:33 PM, "Bok, Karin (NIH/VRC) [E]" (b) (6) wrote:

>

> Alan,

>

> I think Kaitlyn is preparing a talk as well. Either her or Kizzie might have a slide ready.

>

> Karin.

>

> Karin Bok, MS, PhD

> Senior Advisor, Vaccine Development

> Office of the Director, Vaccine Research Center

> National Institute of Allergy and Infectious Diseases

> National Institutes of Health

> phone: 301.761.6866| mobile: 301.642.7506| email: karin.bok@nih.gov

> <https://www.niaid.nih.gov/about/vrc>

>

>

>

>

> On 2/8/20, 7:01 AM, "Embry, Alan (NIH/NIAID) [E]" (b) (6) wrote:

>

> Hi Karin,

>

> I'm giving a universal flu talk at NVAC this week and they asked me to give a second presentation on NIAID's nCoV vaccine activities. Do you (or anyone else) have a slide I can use to just mention the VRC vaccine?

>

> Thanks

> Alan

>

> Sent from my iPhone

>

>

>

>

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 31 Mar 2020 13:13:09 +0000
To: Bok, Karin (NIH/VRC) [E]
Subject: Re: Follow up (b) (4), (b) (5), (b) (6)

I don't think I understand what you mean about (b) (5), (b) (6).

BG

Sent from my iPhone

On Mar 31, 2020, at 9:07 AM, Bok, Karin (NIH/VRC) [E] (b) (6) wrote:

(b) (6), (b) (5), (b) (4)

In any case, you mentioned yesterday at the CoV internal meeting that you will have directives for us all, so let me know how I can help moving forward.

I hope you are staying safe,

Karin.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health
phone: (b) (6) | mobile: (b) (6) | email (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: (b) (6), (b) (4)
Date: Monday, March 30, 2020 at 7:50 PM
To: Karin Bok (b) (6)
Subject: FW: Follow up (b) (4)

FYI

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Monday, March 30, 2020 5:49 PM
To: (b) (6), (b) (4)
Cc: (b) (6), (b) (4) Gall, Jason (NIH/VRC) [C] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; Carlton, Kevin (NIH/VRC) [E] <(b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>; Young, Monique (NIH/VRC) [E] (b) (6)
Subject: RE: Follow up (b) (4)

EXTERNAL

We are getting very proficient with Zoom, but these next two weeks are critical to the phase 1 and I think it will take most of our time. Maybe the week of April 13 or after. Monique may be able to find a time and we will help with the attendee list.

Barney

From: (b) (6), (b) (4)
Sent: Monday, March 30, 2020 5:36 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Cc: (b) (6), (b) (4) Gall, Jason (NIH/VRC) [C] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; Carlton, Kevin (NIH/VRC) [E] (b) (6)>; Koup, Richard (NIH/VRC) [E] <(b) (6)>; Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)
Subject: RE: Follow up (b) (4)

Thanks for your quick response, Barney. I completely understand the challenges of course. We will await your feedback on (b) (4)

In the meantime, can we already try to schedule a scientific discussion on the (b) (4) – do you think you would have time to talk through that with a few scientists on our side?

(b) (4)

From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Monday, March 30, 2020 4:56 PM
To: (b) (6), (b) (4)
Cc: (b) (6), (b) (4) Gall, Jason (NIH/VRC) [C] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; Carlton, Kevin (NIH/VRC) [E] (b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)
Subject: Re: Follow up (b) (4)

EXTERNAL

Hi (b) (4)

I did talk to Rino about this and I think it is a good idea to use the (b) (4)

We can discuss internally (b) (4). At the moment we are working with a reduced work force and struggling to meet our prior obligations. Therefore, I'm not sure we have bandwidth to (b) (4) We will get back with you.

The longer term (b) (4) would definitely be of interest to me.

Barney

Sent from my iPhone

On Mar 30, 2020, at 3:53 PM, (b) (6), (b) (4) wrote:

Dear Barney,

I hope you are doing well, and I'm certain you are extremely busy during this challenging time.

As you may recall (b) (4) to discuss the possibility (b) (4) I know you were tied up with other priorities on that particular day but that you indicated positive interest to Rino Rappuoli.

I am reaching out now to let you know that (b) (4)

(b) (4)

(b) (4)

I look forward to hearing back from you. Ideally we would like to organize a call this week if feasible

Warm regards,

(b) (6), (b) (4)



From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 15 Mar 2020 15:23:48 +0000
To: Hiatt, Nissa (NIH/VRC) [C]
Subject: FW: Interview for The New Yorker Video

Hi Nissa,

I'm loosing track of what things we've agreed to or declined. Do you know about this one?

Barney

From: Hessert, Dominique <dominique_hessert@newyorker.com>
Sent: Wednesday, March 11, 2020 11:36 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Interview for The New Yorker Video

Hi Barney,

My name is Dominique Hessert and I'm a video producer over at The New Yorker magazine. I'm currently looking to create a video illustrating the progression of the coronavirus vaccine, and Carolyn Kormann gave your contact information as someone to reach out to. I'd love to conduct a skype interview with you to talk about this subject - would you be open to this?

If so, just let me know when would be best. Thank you in advance! I look forward to speaking.

Best,
Dominique

--

DOMINIQUE HESSERT
Video Producer

1 World Trade Center, New York NY 10007
O: 212.286.6618
M: (b) (6)
@dominiquehessert

CONDÉ NAST
THE NEW YORKER

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 24 Mar 2020 16:12:38 +0000
To: Bok, Karin (NIH/VRC) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]
Subject: Re: VRC Wide CoV Meeting

I just had a talk with Kevin and we will have more. [REDACTED] (b) (5)

[REDACTED]
[REDACTED] I think we will get there. [REDACTED] (b) (6)
[REDACTED]

BG

Sent from my iPhone

On Mar 24, 2020, at 11:45 AM, Bok, Karin (NIH/VRC) [E] <[REDACTED] (b) (6)ov> wrote:

I think [REDACTED] (b) (5)
[REDACTED] (b) (5)

K.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health
phone: [REDACTED] (b) (6) | mobile: [REDACTED] (b) (6) | email: [REDACTED] (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: "Corbett, Kizzmekia (NIH/VRC) [E]" <[REDACTED] (b) (6)>
Date: Tuesday, March 24, 2020 at 11:30 AM
To: Karin Bok [REDACTED] (b) (6), "Graham, Barney (NIH/VRC) [E]" [REDACTED] (b) (6)
"Morabito, Kaitlyn (NIH/VRC) [E]" [REDACTED] (b) (6)
Subject: Re: VRC Wide CoV Meeting

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

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Fax: (301) 480-2771

From: "Bok, Karin (NIH/VRC) [E]" (b) (6)

Date: Tuesday, March 24, 2020 at 11:25 AM

To: Barney Graham (b) (6), Kaitlyn Morabito (b) (6) >

Cc: Kizzmekia Corbett (b) (6)

Subject: Re: VRC Wide CoV Meeting

I completely agree. (b) (5)
(b) (5)

I had a conversation about this with Barney yesterday, (b) (5)

I agree (b) (5)
(b) (5)

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development

Office of the Director, Vaccine Research Center

National Institute of Allergy and Infectious Diseases

National Institutes of Health

phone: (b) (6) | mobile: (b) (6) | email (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: "Graham, Barney (NIH/VRC) [E]" [REDACTED] (b) (6)
Date: Tuesday, March 24, 2020 at 11:08 AM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" [REDACTED] (b) (6)
Cc: "Corbett, Kizzmekia (NIH/VRC) [E]" [REDACTED] (b) (6) >, Karin Bok [REDACTED] (b) (6)
Subject: Re: VRC Wide CoV Meeting

I think [REDACTED] (b) (5)

I will be calling him today and will try to set up a meeting with the core team.
I
BG

Sent from my iPhone

On Mar 24, 2020, at 11:05 AM, Morabito, Kaitlyn (NIH/VRC) [E] <[REDACTED] (b) (6)>
wrote:

Hi Kizzmekia,

Completely agree, particularly [REDACTED] (b) (5)
[REDACTED] (b) (5)

Kaitlyn

From: Kizzmekia Corbett [REDACTED] (b) (6) >
Date: Tuesday, March 24, 2020 at 11:00 AM

To: Karin Bok (b) (6) >
Cc: Barney Graham <(b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)
Subject: VRC Wide CoV Meeting

It might be worth (b) (5)
(b) (5)

(b) (6)

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: "McDermott, Adrian (NIH/VRC) [E]" (b) (6)
Date: Tuesday, March 24, 2020 at 10:56 AM
To: "Foulds, Kathryn (NIH/VRC) [E]" (b) (6)
Cc: Barney Graham (b) (6) >, "Koup, Richard (NIH/VRC) [E]" (b) (6), Kizzmekia Corbett (b) (6), "Roederer, Mario (NIH/VRC) [E]" <(b) (6)>, "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6) >
Subject: Re: SARs-CoV-2 (b) (5)

Barney and Tracey already has them? We are using them for the clinical trial read outs.

Check with Kevin or myself before actually ordering any reagents.

Adrian

Sent from my iPhone

On Mar 24, 2020, at 10:39 AM, Foulds, Kathryn (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:

Hi all,

I just got off a call with Mario and he asked me to inquire about the status of ordering SARs-CoV-2 [REDACTED] (b) (5). I briefly discussed with Rick last week that [REDACTED] (b) (5). In the past, we coordinated ordering of [REDACTED] (b) (5) within the VRC. Any thoughts?

Kathy

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 4 Mar 2020 14:28:18 +0000
To: Denison, Mark
Cc: Young, Monique (NIH/VRC) [E]
Subject: RE: Request for talk with me at Peds society on May 2

Thanks Mark. Monique Young is copied here and can help with travel arrangements. For this short trip it is probably easier for us to take care of it.

Barney

From: Denison, Mark <[REDACTED]> (b) (6)
Sent: Wednesday, March 4, 2020 9:23 AM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED]> (b) (6)
Subject: Re: Request for talk with me at Peds society on May 2

That would be wonderful!! I know that 3 hr train from DC to Philly. Since talk is later in day it should work great.

It will be 4:45-6:45 pm on Saturday May 2

I will have the organizers contact you. Any Admin person you want contacted.

Yay!!

Mark

From: "Graham, Barney (NIH/VRC) [E]" <[REDACTED]> (b) (6)>
Date: Wednesday, March 4, 2020 at 8:16 AM
To: "Denison, Mark" <[REDACTED]> (b) (6)
Subject: RE: Request for talk with me at Peds society on May 2 in Philadelphia

Looks like I will be available May 2nd and 3rd. Just tell me what you want me to do. I can do a day trip to Philadelphia on the train.

Barney

From: Denison, Mark <[REDACTED]> (b) (6)
Sent: Wednesday, March 4, 2020 8:31 AM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED]> (b) (6)>
Subject: Re: Request for talk with me at Peds society on May 2 in Philadelphia

I think so I will ask Dave aronoff

From: "Graham, Barney (NIH/VRC) [E]" (b) (6) >
Date: Wednesday, March 4, 2020 at 5:47 AM
To: "Denison, Mark" (b) (6)
Subject: Re: Request for talk with me at Peds society on May 2 in Philadelphia

Do they ever stream. grand rounds?

I have to check my calendar.

BG

Sent from my iPhone

On Mar 3, 2020, at 10:39 PM, Denison, Mark (b) (6) wrote:

Laura and I loved it. You look marvelous!
Well done.

QUESTION- REQUEST – would you talk at the Pediatric Academic Societies on May 2 in Philadelphia.

It will Be Natalie Thornton (CDC) Stan Perlman, Me and You. If you can travel but would be in town I could talk them into doing it for your part by video or some version of that. You would do vaccines. I would do antivirals, Stan would do pathogenesis and animal models and Natalie would talk about response. If you cant do it, could Kizzy?

I meant to ask you earlier. The next day May 3 I am introducing Kathy giving the Howland Lecture and that evening getting the Howland award – I think the highest award for pediatric research.

(b) (4)
I spoke with Kathy Neuzil our conversations about testing and capacity.
I will copy you what I am going to send her when I get a chance.

I am doing medicine Grand rounds Thursday morning - in Langford auditorium (the big one). Ha!
Hey Would you either agr

From: "Graham, Barney (NIH/VRC) [E]" (b) (6)
Date: Tuesday, March 3, 2020 at 9:32 PM

To: "Denison, Mark" [REDACTED] (b) (6) >

Subject: Re: The National Institutes of Health is home to some of the greatest doctors, scientists, and researchers in the world. Thank you for all your doing @NIH <http://bit.ly/3anDD02>

It does look like there will be significant new funding for CoV.

BG

Sent from my iPhone

On Mar 3, 2020, at 9:52 PM, Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) wrote:

Sent from my iPhone

Begin forwarded message:

From: "Folkers, Greg (NIH/NIAID) [E]" [REDACTED] (b) (6)

Date: March 3, 2020 at 9:15:12 PM EST

Subject: The National Institutes of Health is home to some of the greatest doctors, scientists, and researchers in the world. Thank you for all your doing @NIH <http://bit.ly/3anDD02>

[<image001.jpg>](#)

Disclaimer: Any third-party material in this email has been shared for internal use under fair use provisions of U.S. copyright law, without further verification of its accuracy/veracity. It does not necessarily represent my views nor those of NIAID, NIH, HHS, or the U.S. government.

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 2 Apr 2020 12:41:49 +0000
To: Mascola, John (NIH/VRC) [E]
Subject: Re: Invitation to participate in a public-private biomedical research collaboration

Ira Longini is present at the WHO meetings and is the statistician pushing the master protocols. It clearly [REDACTED] (b) (5)

Let me know if you need slides.

BG

Sent from my iPhone

On Apr 2, 2020, at 8:36 AM, Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)> wrote:

Barney,

I will attend this meeting – per invitation from Francis. Emily will also be on, so we can spare you one more meeting

One Question – are there specific discussions at WHO level about “master protocols” or other relevant writing recommendations yet related to COVID-19?

John

From: Collins, Francis (NIH/OD) [E] [REDACTED] (b) (6)>
Sent: Thursday, April 2, 2020 7:27 AM
To: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)>
Cc: Wholley, David (FNIH) [T] [REDACTED] (b) (6)>
Subject: Invitation to participate in a public-private biomedical research collaboration
Importance: High

Dear John,

I am reaching out to invite you to discuss the potential formation of a public-private biomedical research collaboration to address the current COVID-19 pandemic, as well as future infectious disease threats. I've been talking with senior colleagues in industry and at NIH and FDA about the urgent need for action in this time of crisis, and have heard considerable enthusiasm for getting a high-level group of experts and

stakeholders together as soon as possible to discuss the feasibility of such a partnership and establish a short list of the aims it could pursue.

If you are amenable to joining in, the Foundation for the NIH has agreed to host a 2-hour teleconference this coming Friday, April 3, from 9:00 AM to 11:00 AM EDT. A draft proposed agenda and discussion guide for the meeting is attached. You will notice we are asking meeting attendees to provide in advance of the call a brief summary of 1-3 catalytic actions that neither the public nor private sector can do optimally right now, but that together we can do rapidly and effectively. FNIH will collate these ideas and send back a summary of everyone's input prior to the call, so we can make most effective use of our time together.

In light of the current global crisis, I agree with my colleagues in all sectors that this discussion should be considered a very high priority. With apologies for the short notice and the disruption this may create for your calendars, please let me know if you can attend. Please copy David Wholley of FNIH [REDACTED] (b) (6) on your reply. Also please begin to assemble ideas about discussion priorities, which I would like to have submitted at least 24 hours before the call. If you can join us, FNIH will reach out to you with a final meeting agenda, roster of attendees, and logistics information.

Regards,

Francis Collins

<Agenda-Discussion Guide Introductory COVID Collaboration_033120.docx>

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Apr 2020 16:33:24 +0000
To: Austin, Sarah (NIH/NIAID) [E]
Cc: Hirsch, Marie (NIH/VRC) [E]; Mascola, John (NIH/VRC) [E]
Subject: Re: Awards Tangible Scale

I think it's [REDACTED] (b) (5), (b) (6)

Barney

Sent from my iPhone

On Apr 23, 2020, at 12:19 PM, Austin, Sarah (NIH/NIAID) [E] [REDACTED] (b) (6) wrote:

Hi Marie – noted, and thanks for following up on [REDACTED] (b) (6), (b) (5)
[REDACTED] (b) (6), (b) (5)

I've copied Barney here for the question [REDACTED] (b) (6), (b) (5)

Thanks,
Sarah

From: Hirsch, Marie (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Thursday, April 23, 2020 12:16 PM
To: Austin, Sarah (NIH/NIAID) [E] [REDACTED] (b) (6)
Subject: FW: Awards Tangible Scale

Hi Sarah,

[REDACTED] (b) (6), (b) (5)
[REDACTED] (b) (6), (b) (5) Thanks.

Marie

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 16 Apr 2020 12:47:44 +0000
To: Andrews, Charla (NIH/NIAID) [C]
Subject: RE: [REDACTED] (b) (5) controls

Ligia Pinto [REDACTED] (b) (6) should be the technical contact at NCI

BG

From: Andrews, Charla (NIH/NIAID) [C] [REDACTED] (b) (6)
Sent: Thursday, April 16, 2020 8:30 AM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: FW: [REDACTED] (b) (5) controls

Any thoughts Barney? We should get a bolus of samples from Larry Corey this week (probably in [REDACTED] (b) (5) but we will see). Ive also asked Adrian to track down the NCI repository POC so if you know who that is let me know.

CA

From: Ledgerwood, Julie (NIH/NIAID) [E] [REDACTED] (b) (6)
Sent: Wednesday, April 15, 2020 9:16 PM
To: McDermott, Adrian (NIH/VRC) [E] <[REDACTED] (b) (6)>
Cc: Andrews, Charla (NIH/NIAID) [C] [REDACTED] (b) (6)>; Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Flach, Britta (NIH/VRC) [C] [REDACTED] (b) (6)>
Subject: Re: [REDACTED] (b) (5) controls

Ok. Thanks Adrian.

Julie Ledgerwood, DO
Deputy Director
Chief Medical Officer
Vaccine Research Center
NIAID, NIH

[REDACTED] (b) (6)
[REDACTED] (b) (6)

On Apr 15, 2020, at 7:24 PM, McDermott, Adrian (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:

Dear Charla and Julie,

As we are developing [REDACTED] (b) (5)

(b) (5)

Happy to discuss
Adrian

On Apr 15, 2020, at 5:56 PM, Ledgerwood, Julie (NIH/NIAID) [E] [REDACTED] (b) (6)
wrote:

Thank you Charla

To make it easier/quicker for BG and AM---
The choice is ---

(b) (5)

Julie

From: Andrews, Charla (NIH/NIAID) [C] [REDACTED] (b) (6) >

Sent: Wednesday, April 15, 2020 5:36 PM

To: McDermott, Adrian (NIH/VRC) [E] [REDACTED] (b) (6) >; Graham, Barney (NIH/VRC) [E]

[REDACTED] (b) (6)

Cc: Flach, Britta (NIH/VRC) [C] [REDACTED] (b) (6) >; Ledgerwood, Julie (NIH/NIAID) [E]

<[REDACTED] (b) (6)>

Subject: FW: [REDACTED] (b) (5) controls

Importance: High

Hi Barney and Adrian,

Sadtler, Kaitlyn (NIH/NIBIB) has made a request for [REDACTED] (b) (5)-

[REDACTED] Her research proposal is attached.

This request was forwarded to the SSWG and being mindful of [REDACTED] (b) (5)

[REDACTED]

Dr. Sadtler has been added to the SSWG list but should her proposal be considered (b) (5)
(b) (5)

Some options from the current inventory (Britta please correct if there are updates):

(b) (5)

Please let me know what you advise (b) (5)

Thanks CA

From: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Sent: Wednesday, April 15, 2020 4:59 PM
To: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Sadtler, Kaitlyn (NIH/NIBIB) [E] <(b) (6)>; Andrews, Charla (NIH/NIAID) [C] <(b) (6)>
Subject: RE: (b) (5) controls

Yes, I think (b) (5)

BG

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >
Sent: Wednesday, April 15, 2020 4:31 PM
To: Sadtler, Kaitlyn (NIH/NIBIB) [E] <(b) (6)> Andrews, Charla (NIH/NIAID) [C]
<(b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Subject: Re: (b) (5) controls

Thanks Kaitlyn for providing the document.

Dr. Graham this is the (b) (5) that we spoke with the NCI (director?) about, re:

(b) (5)

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

From: Kaitlyn Sadtler <(b) (6)>
Date: Wednesday, April 15, 2020 at 4:26 PM
To: "Andrews, Charla (NIH/NIAID) [C]" (b) (6) >
Cc: Barney Graham (b) (6), Kizzmekia Corbett (b) (6) >
Subject: Re: (b) (5) controls

Hi Charla,

I am attaching our COVID19 Research Exemption proposal that lists Kizzy as a collaborator for your reference.

At this time (b) (5)

(b) (5)

Please let me know if you need any further information. Happy to provide. (Thanks for the quick response!)

Cheers,

Kaitlyn

Kaitlyn Sadtler, Ph.D.

Earl Stadtman Investigator
Chief, Section for Immuno-Engineering
National Institute of Biomedical Imaging and Bioengineering
National Institutes of Health
50 South Drive, Room 4318
Bethesda, MD 20892
Cell: (b) (6)
Office: (b) (6) Fax: (301) 480-5302

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Fellow

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From: "Andrews, Charla (NIH/NIAID) [C]" (b) (6)
Date: Wednesday, April 15, 2020 at 4:18 PM
To: "Sadtler, Kaitlyn (NIH/NIBIB) [E]" <(b) (6)>
Cc: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)
Subject: RE: (b) (5) controls

We forwarded your request to three members of the SSWG who are have actually been managing the spreadsheet. I will follow up. (b) (5)

While I am following up, could you please clarify if [REDACTED] (b) (5)

Thanks CA

From: Sadtler, Kaitlyn (NIH/NIBIB) [E] [REDACTED] (b) (6)
Sent: Wednesday, April 15, 2020 4:05 PM
To: Andrews, Charla (NIH/NIAID) [C] <[REDACTED] (b) (6)>
Cc: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: Re: [REDACTED] (b) (5) controls

Hi Charla,

I just wanted to check in on this and see if I was on the wait list for [REDACTED] (b) (5). We are collaborating with Kizzy on this project.

Kaitlyn Sadtler, Ph.D.

Earl Stadtman Investigator
Chief, Section for Immuno-Engineering
National Institute of Biomedical Imaging and Bioengineering
National Institutes of Health
50 South Drive, Room 4318
Bethesda, MD 20892
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Office: [REDACTED] (b) (6) Fax: (301) 480-5302

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From: "Andrews, Charla (NIH/NIAID) [C]" [REDACTED] (b) (6) >
Date: Friday, April 10, 2020 at 3:35 PM
To: "Sadtler, Kaitlyn (NIH/NIBIB) [E]" [REDACTED] (b) (6) >

Cc: "Graham, Barney (NIH/VRC) [E]" (b) (6) "Memoli, Matthew (NIH/NIAID) [E]" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)
Subject: RE: (b) (5) controls

Hi Kaitlyn, we will direct the information to the SSWG but you are correct to work on as many resources as you have since the samples come in intermittently.

We will keep you posted.

Best CA

From: Sadtler, Kaitlyn (NIH/NIBIB) [E] (b) (6)
Sent: Friday, April 10, 2020 12:41 PM
To: Andrews, Charla (NIH/NIAID) [C] <(b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] (b) (6); Memoli, Matthew (NIH/NIAID) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>
Subject: Re: (b) (5) controls

See below. Please let me know when this might be available as we will work on other potential sources as well. Thank you very much and I appreciate your help.

Kaitlyn Sadtler, Ph.D.
Earl Stadtman Investigator
Chief, Section for Immuno-Engineering
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Fellow

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From: "Andrews, Charla (NIH/NIAID) [C]" <[REDACTED] (b) (6)>
Date: Friday, April 10, 2020 at 12:28 PM
To: "Sadler, Kaitlyn (NIH/NIBIB) [E]" [REDACTED] (b) (6)>
Cc: "Graham, Barney (NIH/VRC) [E]" [REDACTED] (b) (6)>, "Memoli, Matthew (NIH/NIAID) [E]" [REDACTED] (b) (6)>, "Corbett, Kizzmekia (NIH/VRC) [E]" <[REDACTED] (b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" [REDACTED] (b) (6)>
Subject: RE: [REDACTED] (b) (6) controls

Dear Dr. Sadler, we can add your request for [REDACTED] (b) (5) to the list compiled by the Sample Sharing Working Group. Can you please provide some details for this request?
Below is a list of the information that we compile for the SSWG requests:

- Investigator/ Institution

Kaitlyn Sadler, NIH/NIBIB/IES

- USG POC

Kaitlyn Sadler

- project description

[REDACTED] (b) (5)

(b) (5)

If anything is not applicable just note as N/A such please. Thanks Charla

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Sent: Friday, April 10, 2020 10:47 AM
To: Sadtler, Kaitlyn (NIH/NIBIB) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] (b) (6); Memoli, Matthew (NIH/NIAID) [E] (b) (6); Andrews, Charla (NIH/NIAID) [C] <(b) (6)>
Subject: Re: (b) (5) controls

Hi Kaitlyn,

I'm including Charla Andrews who is helping to manage any (b) (5) that we received. To date, we have not received (b) (5) so I'm not sure that we have any to spare at the moment.

Thanks,
Kaitlyn

From: "Sadtler, Kaitlyn (NIH/NIBIB) [E]" (b) (6)
Date: Friday, April 10, 2020 at 9:59 AM
To: Kizzmekia Corbett <(b) (6)>

Cc: Barney Graham (b) (6), "Morabito, Kaitlyn (NIH/VRC) [E]"
< (b) (6) "Memoli, Matthew (NIH/NIAID) [E]" (b) (6)
Subject: Re: (b) (5) controls

Kizzy,

Thanks so much. I am happy to pop by the VRC, we are hoping to start testing out (b) (5) early next week.

And just following up on our call this morning if you have any (b) (5) (b) (5) that would be great to make sure everything we run in Building 50 agrees with your assays on the other side of campus.

Cheers,

Kaitlyn

Kaitlyn Sadtler, Ph.D.

Earl Stadtman Investigator

Chief, Section for Immuno-Engineering

National Institute of Biomedical Imaging and Bioengineering

National Institutes of Health

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Fellow

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From: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)

Date: Thursday, April 9, 2020 at 2:26 PM

To: "Sadtler, Kaitlyn (NIH/NIBIB) [E]" (b) (6)>

Cc: "Graham, Barney (NIH/VRC) [E]" (b) (6)>, "Morabito, Kaitlyn (NIH/VRC)

[E]" < [REDACTED] (b) (6)>, "Memoli, Matthew (NIH/NIAID) [E]"
[REDACTED] (b) (6)>

Subject: Re: [REDACTED] (b) (5) controls

Hey Kaitlyn (not out Kaitlyn),
Our Kaitlyn will check on this. Kaitlyn see below...

--

Kizzmekia S. Corbett, PhD

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: [REDACTED] (b) (6)

Personal: [REDACTED] (b) (6)

Fax: (301) 480-2771

From: Kaitlyn Sadtler [REDACTED] (b) (6)>

Date: Wednesday, April 8, 2020 at 7:00 PM

To: Kizzmekia Corbett [REDACTED] (b) (6)>

Cc: Barney Graham [REDACTED] (b) (6)>, Kaitlyn Morabito [REDACTED] (b) (6)

"Memoli, Matthew (NIH/NIAID) [E]" [REDACTED] (b) (6)

Subject: [REDACTED] (b) (5) controls

Hi Kizzy,

I wanted to loop back around to see if you had some [REDACTED] (b) (5) that our team could use for [REDACTED] (b) (5). Happy to let you know what's evolved on this Friday's weekly call if you would like to join.

Also, [REDACTED] (b) (5)

[REDACTED]

Cheers,

Kaitlyn

Kaitlyn Sadtler, Ph.D.

Earl Stadtman Investigator
Chief, Section for Immuno-Engineering
National Institute of Biomedical Imaging and Bioengineering
National Institutes of Health
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From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 22 Feb 2020 20:50:51 +0000
To: Lynda Stuart
Subject: RE: Fast-track PD and manufacturing of [REDACTED] (b) (4)

Great. See you next week.

BG

From: Lynda Stuart [REDACTED] (b) (6)
Sent: Saturday, February 22, 2020 3:04 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: Re: Fast-track PD and manufacturing of [REDACTED] (b) (4)

Hi Barney

I will be there in person. There is some additional information and thinking I can share with you and John under our NIH:BMGF CDA that I can't fully disclose with Neil. Looking forward to catching up in person.

Lynda

Sent from my iPhone

On Feb 22, 2020, at 11:53 AM, Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) wrote:

Hi Neil,

BMGF (including Lynda I think) will be visiting VRC on the 28th. We've been discussing nCoV over the last few weeks in various venues (Global Forum on Childhood Pneumonia and WHO meeting on Wuhan virus).

We launched GMP mRNA with Moderna to deliver the [REDACTED] (b) (4) and are just a few weeks away from opening a phase I trial. [REDACTED] (b) (4)

[REDACTED] (b) (4)

Barney

From: Neil King <[REDACTED] (b) (6)>
Sent: Saturday, February 22, 2020 12:49 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Lynda, Stuart
[REDACTED] (b) (6)
Subject: Fast-track PD and manufacturing of [REDACTED] (b) (6)

Hi Barney,

I'm writing to connect you to Lynda on the topic of SARS-CoV-2 vaccine candidates. As I think you know, BMGF is looking to move candidates forward into PD and manufacturing as quickly as possible. [REDACTED] (b) (4)

[REDACTED] (b) (4)

I have no idea what the VRC's plans are for internal efforts -- you may already have options lined up. I also know that you two will see each other soon. But I thought it would be good to connect ahead of that meeting in case there are any preparations that can be done now.

Thanks,
And talk to you both soon,
Neil

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 18 Apr 2020 01:41:18 +0000
To: Southerland, William M.
Subject: Re: COVID-19

Hi Bill,

Hope you and Brenda are staying well.

Ask me In mid May. Everything is going fine so far, but need a little more data to be sure.

Prayers couldn't hurt.

Take care,

Barney

Sent from my iPhone

> On Apr 17, 2020, at 9:17 PM, Southerland, William M. (b) (6) wrote:

>

> Barney...

>

> Really appreciate the work you're doing... hope you and the family are all safe and well...

>

> My COVID 19 question this time is..., in terms of a vaccine..., would you say it's just around the corner..., across town..., or across the country...

>

> Thanks and stay safe

>

> Bill

>

> Sent from my iPhone

>

>> On Mar 1, 2020, at 8:45 PM, Graham, Barney (NIH/VRC) [E] (b) (6) wrote:

>>

>> External Email Warning

>> WARNING! Please proceed with caution as this message could be a scam. The sender's account may have been compromised and used to send malicious messages. If this message seems suspicious, please DO NOT CLICK any of the links and/or attachments. If you believe the contents of this email may be unsafe, please send it as an attachment to the ETS Information Security Team: ets-infosec@howard.edu.

>>

>>

>> Hi Bill,

>>

>> We are in the middle of this so we have to operate as if it will be a big problem next winter if not during the next few months. Even though mortality is relatively low everyone is likely susceptible so it may be rough for the next few years.

>>

>> Then again, the original SARS surprisingly left and did not come back.

>>

>> Best wishes,

>>

>> Barney

>>

>>

>>

>>

>> Sent from my iPhone

>>

>>>> On Mar 1, 2020, at 6:54 PM, Southerland, William M. <[REDACTED] (b) (6)> wrote:

>>>>

>>>>

>>>> Barney...

>>>>

>>>> Just wanted to check to see what your thinking is on this.... rough ride or little bump....?

>>>>

>>>> Thanks

>>>>

>>>> Bill

>>>>

>>>> Sent from my iPhone

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 30 Apr 2020 21:07:49 +0000
To: Sullivan, Nancy (NIH/VRC) [E]
Subject: RE: VIP Visit 2nd Floor Tuesday (5/5)

Keeping 2 people working on your side of the lab seems entirely reasonable to me.

BG

From: Sullivan, Nancy (NIH/VRC) [E] (b) (6) >
Sent: Thursday, April 30, 2020 5:06 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: Fwd: VIP Visit 2nd Floor Tuesday (5/5)

Hi Barney,

I think for the second visit they were willing to be more flexible. Would be good if we can do that again. Will be extremely disruptive to ongoing experiments. Thoughts?

Thanks,
Nancy

Begin forwarded message:

From: "Fisher, Brian (NIH/VRC) [E]" (b) (6) >
Date: April 30, 2020 at 4:51:41 PM EDT
To: "Boritz, Eli (NIH/NIAID) [E]" (b) (6), "Sullivan, Nancy (NIH/VRC) [E]" (b) (6), "Petrovas, Costas (NIH/VRC) [E]" (b) (6) >
Cc: "Graham, Barney (NIH/VRC) [E]" (b) (6) >
Subject: VIP Visit 2nd Floor Tuesday (5/5)

Hi All,

There will be a VIP visit to the second floor on Tuesday (5/5). The last time this required that during certain periods no staff will be allowed on the floor/in the building.

I have blocked off time on the 2nd floor COVID calendar and will adjust it when I know exact times however, for the time being please don't schedule staff during these blocked off times on Tuesday.

(b) (5)

Thanks

B.

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 25 Nov 2019 16:15:33 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]
Subject: RE: E-sign BEI Form to deposit CoV Antibodies
Attachments: BEI Deposit Form Part 1 (2018)_Coronavirus Antibodies_BG.pdf

Here you go.

BG

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) >
Sent: Monday, November 25, 2019 10:29 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: E-sign BEI Form to deposit CoV Antibodies

Hi Barney,

Can you esign this?

Thanks,
Kaitlyn

--

Kaitlyn M. Morabito, M.S., Ph.D.
Scientific Program Manager, Vaccine Development for RSV and Emerging Viral Diseases
Viral Pathogenesis Laboratory, Vaccine Research Center
National Institutes of Allergy and Infectious Diseases, NIH
Bldg. 40, Rm. 2508
40 Convent Drive
Bethesda, MD 20892
(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 11 Mar 2020 21:00:39 +0000
To: Young, Monique (NIH/VRC) [E]
Subject: Fwd: 2020 NFID Annual Conference on Vaccinology Research (ACVR)
Cancellation

FYI.

Also the World Vaccine Congress and ADVAC were cancelled today.

Your chance to catch up!

BG

Sent from my iPhone

Begin forwarded message:

From: Vaccine <Vaccine@nfid.org>
Date: March 11, 2020 at 1:01:45 PM EDT
Subject: 2020 NFID Annual Conference on Vaccinology Research (ACVR) Cancellation

Due to the current [COVID-19](#) outbreak, the National Foundation for Infectious Diseases (NFID) has made the difficult decision to cancel the 2020 Annual Conference on Vaccinology Research (ACVR), scheduled to take place March 23-25, 2020 in Washington, DC.

NFID recognizes the important role that many ACVR attendees and speakers play in managing this outbreak. The decision to cancel the conference was made after careful consideration of ongoing guidance from the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC).

NFID leadership and staff are hard at work to provide COVID-19 guidance and preparedness tips and are also developing alternative ways to recognize our award winners and share the important educational content from ACVR directly with attendees.

We will continue to update the ACVR website (www.nfid.org/acvr) with additional details on plans for delivering elements of ACVR programming, as well as answers to questions about travel, refunds, and other issues related to the conference.

All registered attendees will have the option to receive a full refund or to donate (all or a portion of) the registration fees to support NFID. Please use the following link if you wish to donate all or part of your registration fee to NFID: bit.ly/2020ACVR-donate by **March 30, 2020**. If we do not receive a response, a full refund will be processed within 30 days. Unfortunately, we are not able to apply ACVR registration fees as a credit toward future NFID events.

NFID feels strongly that ensuring the health and well-being of the public and healthcare professionals is of primary importance. Given the rapidly evolving circumstances of the coronavirus outbreak, we recognize our role in leading by example and modeling social distancing to help prevent the spread of the virus. Our thanks and appreciation go out to all who are working to protect public health.

Sincerely,

William Schaffner, MD
NFID Medical Director

Marla Dalton, CAE
NFID Executive Director & CEO

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 28 Feb 2020 14:09:51 +0000
To: Marston, Hilary (NIH/NIAID) [E]; Mascola, John (NIH/VRC) [E]
Subject: RE: NIH Director's Blog: THE LATEST

I had copied Jen and Anne Oplinger and Nissa before I forwarded to you. I wasn't sure [REDACTED] (b) (5)
[REDACTED] (b) (5)

BG

From: Marston, Hilary (NIH/NIAID) [E] <[REDACTED] (b) (6)>
Sent: Thursday, February 27, 2020 8:00 PM
To: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)
Cc: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>
Subject: Re: NIH Director's Blog: THE LATEST

I can FYI Jen Routh but I'm sure she'll see down the line.

On Feb 27, 2020, at 7:57 PM, Mascola, John (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:

Barney, I agree. [REDACTED] (b) (5)
[REDACTED]

From: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>
Sent: Thursday, February 27, 2020 6:49 PM
To: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6); Marston, Hilary (NIH/NIAID) [E]
[REDACTED] (b) (6)
Subject: FW: NIH Director's Blog: THE LATEST

FYI. This is going on Dr. Collins blog next Tuesday and will probably be finalized tomorrow. I felt like the
[REDACTED] (b) (5)

Barney

From: Graham, Barney (NIH/VRC) [E]
Sent: Thursday, February 27, 2020 6:35 PM
To: Jason McLellan (b) (6)>; Kendall Morgan (b) (6)>
Cc: Hiatt, Nissa (NIH/VRC) [C] (b) (6); Oplinger, Anne (NIH/NIAID) [E] (b) (6)>; Routh, Jennifer (NIH/NIAID) [E] (b) (6)>
Subject: RE: NIH Director's Blog: THE LATEST

I added a few more edits. (b) (5)
(b) (6)
(b) (6)

Barney

From: Jason McLellan <(b) (6)>
Sent: Thursday, February 27, 2020 1:56 PM
To: Kendall Morgan (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: RE: NIH Director's Blog: THE LATEST

Hi Kendall,

The latest version looks great! I made two minor edits (attached).

Cheers,
Jason

From: Kendall Morgan (b) (6)
Sent: Thursday, February 27, 2020 9:24 AM
To: Jason McLellan (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Re: NIH Director's Blog: THE LATEST

Hi there,

Here's the latest edited version. It is begin sent through NIAID today. If you see anything in need of changing, please let me know. It will go to Dr. Collins tomorrow and will appear on the blog next Tuesday morning.

Thanks again!
Kendall

On Mon, Feb 24, 2020 at 9:17 AM Kendall Morgan (b) (6)> wrote:
Dear Drs. McLellan and Graham,

I'm writing with some good news. Dr. Collins has selected your work published in Science on the cryo-EM structure of the 2019-nCoV spike to be featured on his blog (<https://directorsblog.nih.gov>).

I'd like to arrange to speak with one of you or perhaps another member of the team before drafting the post by Wednesday at noon. Could you help me find a time to connect by phone, perhaps later today or early tomorrow? We'll be getting it fully prepared to send to Dr. Collins by the end of the week.

Thanks in advance,

Kendall

(b) (6)

NIH Director's Blog

directorsblog.nih.gov

Science Editor

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 7 Apr 2020 02:40:11 +0000
To: Fisher, Brian (NIH/VRC) [E]
Cc: Ruckwardt, Tracy (NIH/VRC) [E]; Kanekiyo, Masaru (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: Mitigation Plan Document - Lucio Gama/Christy Harris

Good job with this. Thanks.

Barney

Sent from my iPhone

On Apr 6, 2020, at 10:10 PM, Fisher, Brian (NIH/VRC) [E] <(b) (6)> wrote:

Hi All,

Tracy's edits are attached. Please let me know of any other edits/additions by tomorrow afternoon.

Thanks

B.

From: Fisher, Brian (NIH/VRC) [E]
Sent: Friday, April 3, 2020 2:23 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)> Ruckwardt, Tracy (NIH/VRC) [E] <(b) (6)>; Kanekiyo, Masaru (NIH/VRC) [E] <(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>
Subject: Mitigation Plan Document - Lucio Gama/Christy Harris

Hi All,

Lucio Gama and Christy Harris are coordinating continuity of operations planning and have requested the attached doc from VPL. I have filled in most but need input from you regarding

- **"Identify critical studies in progress"**
- **"Identify impact on normal operations due to reduced number of personnel physically working in the labs"**

If you could get this back to me by mid-next week it would be great.

Thanks

B.

<Mitigation Plan during COVID.docx>

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 6 Mar 2020 17:12:14 +0000
To: Stemmy, Erik (NIH/NIAID) [E]; Embry, Alan (NIH/NIAID) [E]
Subject: FW: mRNA based coronavirus therapy

Thank you for your email. Since we work on vaccines and prevention approaches I'm forwarding your email to the NIAID group managing therapeutic options for COVID-19.

Best wishes,

Barney

From: Yusuf ERKUL <[REDACTED]> (b) (6)
Sent: Friday, March 6, 2020 12:03 PM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED]> (b) (6) >
Cc: Burak YILMAZ <[REDACTED]> (b) (6) >
Subject: [REDACTED] (b) (4) coronavirus therapy

Dear Dr. Graham,

My name is Yusuf Erkul and I'm the president of Kernal Biologics, which is a Cambridge, MA-based early stage mRNA company developing mRNA 2.0 technology, [REDACTED] (b) (4)

As you know there's a great unmet medical need due to the recent COVID-19 outbreak. We've been thinking about [REDACTED] (b) (4)

[REDACTED] (b) (4)

A few more words on Kernal: As a member of **MIT Startup Exchange**, we are located in LabCentral, premier Biotech incubator in MA. We won **MassChallenge** Boston 2018, and were

selected to **MassConnect** 2019. We received two consecutive "Golden Ticket" awards from **Amgen** and a "Technology in Space" prize and grant from **NASA/CASIS** and **Boeing**, for our microgravity experiments in the International Space Station. Our advisory board includes Dr. Edward J. Benz Jr., President Emeritus of **Dana Farber Cancer Institute**, Dr. Peter Blume-Jensen, CEO of Acrivon and former head of **Merck's** Oncology Department, Dr. Art Krieg, CSO of Checkmate and the founder and former CSO of **Coley** (acquired by **Pfizer**), **Sarepta**, **Translate Bio**, and Dr. Dean Felsher of **Stanford University**.

We look forward to hearing back from you.

Regards,

Yusuf Erkul, MD

Co-founder & President



700 Main Street, North

Cambridge, MA 02139

M: [REDACTED] (b) (6)

W: [REDACTED] (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 23 Mar 2020 15:39:59 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]; Bok, Karin (NIH/VRC) [E]
Subject: Fwd: Coordination of COVID-19 response effort

FYI.

Barney

Sent from my iPhone

Begin forwarded message:

From: "Mascola, John (NIH/VRC) [E]" <(b) (6)>
Date: March 23, 2020 at 11:17:28 AM EDT
To: "Carlton, Kevin (NIH/VRC) [E]" (b) (6)>, "Koup, Richard (NIH/VRC) [E]" (b) (6), "Boritz, Eli (NIH/NIAID) [E]" <(b) (6)>, "Daucher, Marybeth (NIH/NIAID) [E]" (b) (6)>, "Douck, Daniel (NIH/VRC) [E]" (b) (6), "Gall, Jason (NIH/VRC) [C]" (b) (6)>, "Graham, Barney (NIH/VRC) [E]" (b) (6)>, "Hirsch, Marie (NIH/VRC) [E]" (b) (6), "Kwong, Peter (NIH/VRC) [E]" (b) (6), "Ledgerwood, Julie (NIH/NIAID) [E]" (b) (6)>, "McDermott, Adrian (NIH/VRC) [E]" (b) (6)>, "Mittelman, Abraham (NIH/VRC) [C]" (b) (6), "Roederer, Mario (NIH/VRC) [E]" (b) (6)>, "Scorpio, Diana (NIH/VRC) [E]" (b) (6), "Seder, Robert (NIH/VRC) [E]" (b) (6) "Sullivan, Nancy (NIH/VRC) [E]" (b) (6) "Bok, Karin (NIH/VRC) [E]" (b) (6), "Vazquez, Sandra (NIH/VRC) [C]" (b) (6)>
Cc: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>, "Chen, Grace (NIH/NIAID) [E]" (b) (6), "Daucher, Marybeth (NIH/NIAID) [E]" (b) (6), "Harris, Christina (NIH/NIAID) [E]" (b) (6)>, "Austin, Sarah (NIH/NIAID) [E]" (b) (6)>
Subject: RE: Coordination of COVID-19 response effort

Kevin,

This is appreciated. Let me emphasize the obvious – these are unprecedented times and our VRC CoV efforts will enter a new phase of all PI and Program Heads contributing. Thus, your efforts will be necessary and pivotal.

Minor note – please include Sarah Austin on all correspondence to me.

Thanks all for the amazing response here.

John

From: Carlton, Kevin (NIH/VRC) [E] <(b) (6)>
Sent: Monday, March 23, 2020 10:54 AM
To: Koup, Richard (NIH/VRC) [E] (b) (6); Boritz, Eli (NIH/NIAID) [E] (b) (6); Daucher, Marybeth (NIH/NIAID) [E] (b) (6); Douek, Daniel (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Hirsch, Marie (NIH/VRC) [E] (b) (6); Kwong, Peter (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); McDermott, Adrian (NIH/VRC) [E] <(b) (6)>; Mittelman, Abraham (NIH/VRC) [C] (b) (6); Roederer, Mario (NIH/VRC) [E] (b) (6); Scorpio, Diana (NIH/VRC) [E] (b) (6); Seder, Robert (NIH/VRC) [E] (b) (6); Sullivan, Nancy (NIH/VRC) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6), Sandra (NIH/VRC) [C] (b) (6)>
Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Chen, Grace (NIH/NIAID) [E] (b) (6); Daucher, Marybeth (NIH/NIAID) [E] (b) (6); Harris, Christina (NIH/NIAID) [E] (b) (6)
Subject: RE: Coordination of COVID-19 response effort

Hi Everyone,

Thank you to VRC Leadership, Pls and Senior Staff for having the confidence in me to lead such an important group at such a critical time. As I get started on forming the teams and organizing our efforts, please do not hesitate to let me know if you feel that I, the team, or our efforts is missing or underperforming a vital activity. I will not take offense and see this as a vital necessity to ensuring an efficient and high performing effort.

Today (this afternoon or tonight), I will lay out a draft Team structure (1 overarching team, with multiple subgroups) for review and comment, along with reaching out to those involved in response to start generating the teams lists.

More to follow.

Kevin

From: Koup, Richard (NIH/VRC) [E] (b) (6)
Sent: Monday, March 23, 2020 9:59 AM
To: Boritz, Eli (NIH/NIAID) [E] (b) (6); Daucher, Marybeth (NIH/NIAID) [E] (b) (6); Douek, Daniel (NIH/VRC) [E] <(b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Hirsch, Marie (NIH/VRC) [E] (b) (6); Koup, Richard (NIH/VRC) [E] <(b) (6)>; Kwong, Peter (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); McDermott, Adrian (NIH/VRC) [E] (b) (6); Mittelman, Abraham (NIH/VRC) [C] (b) (6)

(b) (6)>; Roederer, Mario (NIH/VRC) [E] (b) (6)>; Scorpio, Diana
(NIH/VRC) [E] (b) (6)>; Seder, Robert (NIH/VRC) [E] (b) (6)>
Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Chen, Grace (NIH/NIAID) [E]
(b) (6); Carlton, Kevin (NIH/VRC) [E] (b) (6); Daucher, Marybeth
(NIH/NIAID) [E] (b) (6)>; Harris, Christina (NIH/NIAID) [E]
(b) (6)>

Subject: Coordination of COVID-19 response effort

All,

After discussions over the last few days it has become evident that the major focus of the VRC in the coming weeks and months will be our response to COVID-19 – vaccine, serosurvey, and evaluation of infected and convalescent volunteers. Limitations on lab utilization while maintaining physical distancing and assuring the safety of our personnel will greatly complicate this effort. Duplication of effort is not an option in this environment. As such, Kevin Carlton has agreed to take on the effort of leading the project management of the COVID response team. He will be collecting data from the various efforts and generating lists of tasks, personnel, space, and reagent needs. He will then let us know his thoughts on the best way to efficiently coordinate this important and herculean effort that lies before us. Paraphrasing something Barney said to some of us last night – This is something the VRC has got to get right.

Kevin – welcome aboard!

Rick

Richard A. Koup, MD
Chief, Immunology Laboratory
Deputy Director
Vaccine Research Center, NIAID, NIH
40 Convent Drive, MSC 3022
Building 40, Room 3502
Bethesda, MD 20892
Tel: (b) (6)
Fax: 301-480-2779
(b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 9 Mar 2020 13:25:21 +0000
To: Stephane Bancel
Cc: Andrea Carfi; Stephen Hoge; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: Pre clinical data

(b) (4)

Barney

Sent from my iPhone

On Mar 9, 2020, at 9:19 AM, Stephane Bancel <[REDACTED] (b) (6)> wrote:

Thanks. Given the international interest i could envision a series of a few papers published online. I could see them approved so fast

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From: Andrea Carfi [REDACTED] (b) (6) >

Sent: Monday, March 9, 2020 7:49:01 AM

To: Stephane Bancel [REDACTED] (b) (6) >

Cc: Barney Graham [REDACTED] (b) (6); Stephen Hoge [REDACTED] (b) (6)

Subject: Re: Pre clinical data

Hi Stephane,

[REDACTED] (b) (4) Barney and I are discussing the best path forward. We would have liked to include [REDACTED] (b) (4) but we have to understand timelines for that to happen.

Best,
Andrea

On Mar 9, 2020, at 6:18 AM, Stephane Bancel <[REDACTED] (b) (6)> wrote:

Andrea and Barney
Morning. I hope you are both well.

[REDACTED] (b) (4)

Thanks. Stephane
Get [Outlook for iOS](#)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 28 Mar 2020 18:54:08 +0000
To: Stein, Judy (NIH/VRC) [C]; Young, Monique (NIH/VRC) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]; Petrik, Amy (NIH/NIAID) [E]
Subject: RE: Introduction
Attachments: (b) (4);_OX signed_GRAHAM.pdf,
(b) (4) Overbaugh_FH_PE_032720.pdf

2 signed documents attached. One for UK and one for Univ Wash.

Barney

From: Stein, Judy (NIH/VRC) [C] (b) (6)
Sent: Friday, March 27, 2020 12:33 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Young, Monique (NIH/VRC) [E] (b) (6)
Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6)
Subject: FW: Introduction

Hi Monique and Barney,
Can this please be signed and sent back to me.

Kizzmekia – they signed with no changes so I am fine with this being sent anytime.
Thanks
Judy

From: Sally Pelling-Deeves (b) (6)
Sent: Friday, March 27, 2020 10:35 AM
To: Stein, Judy (NIH/VRC) [C] (b) (6); Teresa Lambe (b) (6)
Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); van Doremalen, Neeltje (NIH/NIAID) [E] (b) (6); Carlton, Kevin (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Katie Ewer (b) (6); Alex Spencer (b) (6); Julie Furze (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6)
Subject: RE: Introduction

Hi Judy and Tess,

Many thanks for this. Here it is signed by Oxford. Tess please could you add your signature at the bottom of page 2 and send to Judy? Thanks.

Best wishes,

Sally

Sally Pelling-Deeves

Senior Research Contracts Specialist | Research Services

University of Oxford

RS Medical Sciences

Joint Research Office, 2nd Floor Boundary Brook House, Churchill Drive, Headington, OX3 7GB

T: (b) (6) E: (b) (6)

researchsupport.admin.ox.ac.uk

My working hours are (b) (6)

From: Stein, Judy (NIH/VRC) [C] (b) (6)

Sent: 27 March 2020 11:55

To: Sally Pelling-Deeves (b) (6)>; Teresa Lambe (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; van Doremalen, Neeltje (NIH/NIAID) [E] (b) (6)

Cc: Carlton, Kevin (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6) Katie Ewer (b) (6); Alex Spencer (b) (6) Julie Furze (b) (6)>; Petrik, Amy (NIH/NIAID) [E] (b) (6)>

Subject: RE: Introduction>

Hi Sally and Tess,

I hope you are doing well.

Attached is our standard (b) (4) It is the same as previous SLAs – there are no modifications to the terms.

Can #3 please be completed and then if the signature block can be filled in and the document signed and returned to me, we will circulate it for signature here.

If there are no requested changes, the material can be send concurrent with signature on our side.

Thanks very much.

Judy

Judy Stein, MBA, MSPH [C]

Strategic Planning and Development

Vaccine Research Center, NIAID, NIH

Tel: (b) (6)

From: Sally Pelling-Deeves (b) (6)

Sent: Friday, March 27, 2020 6:26 AM

To: Teresa Lambe (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); van Doremalen, Neeltje (NIH/NIAID) [E] (b) (6)>

Cc: Stein, Judy (NIH/VRC) [C] (b) (6)>; Carlton, Kevin (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6)>; Katie Ewer (b) (6) Alex Spencer (b) (6)>; Julie Furze (b) (6)
Subject: Re: Introduction

Thanks all. Please send me the draft when ready (or let me know if you prefer me to draft).

Best wishes,

Sally

From: Teresa Lambe (b) (6)
Sent: 27 March 2020 09:53
To: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); van Doremalen, Neeltje (NIH/NIAID) [E] (b) (6)>
Cc: Stein, Judy (NIH/VRC) [C] (b) (6) Carlton, Kevin (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6)>; Sally Pelling-Deeves (b) (6) >; Katie Ewer (b) (6) Alex Spencer (b) (6) k>; Julie Furze (b) (6)>
Subject: RE: Introduction

Great. Many thanks.

I copy Sally here for the contract.

Our postal address and FED-EX are below

Dr. Teresa Lambe/ Julie Furze/Alex Spencer/Katie Ewer
The Jenner Institute Laboratories,
University of Oxford
Old Road Campus Research Building (ORCRB).
Roosevelt Drive, Oxford, OX3 7DQ.
Phone # (b) (6)

Fedex number is (b) (4)

Best,
Tess

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Sent: 27 March 2020 09:39
To: Teresa Lambe (b) (6)>; van Doremalen, Neeltje (NIH/NIAID) [E] (b) (6)>

Cc: Stein, Judy (NIH/VRC) [C] (b) (6); Carlton, Kevin (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)
Subject: Re: Introduction

Thanks for the introduction. Sure we are happy to share the (b) (4).
Happy to get an agreement started and if you provide an address I can ship the (b) (4) out on Monday.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: Teresa Lambe <(b) (6)>
Date: Thursday, March 26, 2020 at 1:27 PM
To: "van Doremalen, Neeltje (NIH/NIAID) [E]" (b) (6), Kizzmekia Corbett (b) (6)
Subject: RE: Introduction

Thanks Neeltje for the introduction.

Hi Kizzmekia,

As Neeltje mentioned I'm based at the Jenner Institute and we are developing a (b) (4)
(b) (4)

Obviously, we're very happy to arrange courier collection.

Many thanks for your time.

Best,
Tess

From: van Doremalen, Neeltje (NIH/NIAID) [E] <neeltje.vandoremalen@nih.gov>
Sent: 26 March 2020 13:32
To: Corbett, Kizzmekia (NIH/VRC) [E] <kizzmekia.corbett@nih.gov>; Teresa Lambe <teresa.lambe@ndm.ox.ac.uk>
Subject: Introduction

Hi Kizzmekia,

I would like to introduce my colleague Dr. Teresa Lambe to you, she is a PI at the Jenner Institute at Oxford University and currently working on adenovirus-vectored vaccines. She is very interested in your (b) (4) and was wondering if it would be possible for you to share this with her? I am sure she can tell you more about her plans with it.

Best wishes,

Neeltje van Doremalen, PhD
Staff Scientist
Virus Ecology Section
Laboratory of Virology
Rocky Mountain Laboratories, NIAID/NIH
903 South 4th Street
Hamilton, MT, 59840

(b) (6)

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 30 Mar 2020 14:08:11 +0000
To: Cynthia Ziwawo
Subject: Re: [REDACTED] (b) (6)

Thanks Cynthia. That is generous of you.

Barney

Sent from my iPhone

> On Mar 30, 2020, at 10:06 AM, Cynthia Ziwawo [REDACTED] (b) (6) > wrote:

>

> Good Morning!

>

> My name is Cynthia Ziwawo, a post-bac on the CoVIP team at the VRC. [REDACTED] (b) (6)

[REDACTED] Please let me know if there are any issues, and I look forward to hearing from you.

>

> Thank You,

> Cynthia Ziwawo

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 26 Mar 2020 14:47:58 +0000
To: Carlton, Kevin (NIH/VRC) [E]
Subject: Re: Phase 1 ELISA execution

Not sure what to tell them Kevin. [REDACTED] (b) (5)

Barney

Sent from my iPhone

On Mar 26, 2020, at 10:44 AM, Carlton, Kevin (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:

Hi Barney,

[REDACTED] (b) (5)

[REDACTED] (b) (5) I do not want to get ahead of your communication in this matter.

Kevin

From: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Thursday, March 26, 2020 9:12 AM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Koup, Richard (NIH/VRC) [E]
[REDACTED] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] [REDACTED] (b) (6); McDermott,
Adrian (NIH/VRC) [E] [REDACTED] (b) (6)>
Cc: Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6); Carlton, Kevin (NIH/VRC) [E]
[REDACTED] (b) (6)
Subject: Phase 1 ELISA execution

All,

I've talked to all of you and given this some thought – and to me, this is quite straight forward.

[REDACTED] (b) (5)

(b) (5)

We don't need any discussion per email here – just a professional plan for execution. Please relay the plan to your staff – and useful to explain in a way that they appreciate the rationale and necessity of this approach.

Thanks,
John

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Sent: Thursday, March 26, 2020 4:30 AM
To: Mascola, John (NIH/VRC) [E] (b) (6); Koup, Richard (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Phase 1 ELISA Validation

Good morning,

(b) (5)

Have a good day.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)

Personal: [REDACTED] (b) (6)
Fax: (301) 480-2771

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 20 Apr 2020 13:59:23 +0000
To: Robert Chen
Subject: RE: Proposed manuscript: BC/CEPI Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines
Attachments: declaration-of-competing-interests_GRAHAM.docx

Hi Bob,

COI attached.

Barney

From: Robert Chen (b) (6)
Sent: Sunday, April 19, 2020 10:53 PM
To: Chuan Qin (b) (6); Subbarao, Kanta (b) (6);
Perlman, Stanley (b) (6); Baric, Ralph (b) (6); Graham, Barney
(NIH/VRC) [E] (b) (6); Arnaud .Didierlaurent (b) (6); Paul
Henri Lambert (b) (6); Steve Black (b) (6); Corry Dekker
(b) (6); Andrew Pollard (b) (6)
Cc: Chung, Lisa (b) (6)
Subject: Re: Proposed manuscript: BC/CEPI Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines

Dear all,

Just a quick note to remind folks of the deadline tomorrow 5PM EDT for comments. We have primed the pumps at Vaccine for hopefully a rapid review and publication. Please complete the attached Declaration of Competing Interest document and upload to:
https://drive.google.com/drive/folders/13l6yYuo18CBjDFKwYXsPB4ep_rWAAwnH?usp=sharing or email to my assistant Lisa Chung (cc'ed).

Best regards,

Robert (Bob) Chen MD MA
Scientific Director, Brighton Collaboration
Land: (b) (6) Cell: (b) (6)
email: (b) (6)

On Thu, Apr 16, 2020 at 4:03 PM Robert Chen <(b) (6)> wrote:
Dear colleagues,

Thanks to Donna Ambrosino and her writing team, here is the draft manuscript (attached and link: <https://drive.google.com/file/d/1Kbqjm8gflh3TL5idHVM7yOSSIDWKwEUg/view?usp=sharing>). Note the final consensus statement is unchanged from the meeting as the wording is already approved by WHO, CEPI, FDA and EMA and we don't wish to tinker with it now. Please provide your edits on the rest of the manuscript (directly on the link preferred, though email attachment also accepted) by NLT Monday Apr. 27 @5PM EDT (New York).

We'll work on the title page, key words, etc. in the meantime.

Best regards,

Robert (Bob) Chen MD MA
Scientific Director, Brighton Collaboration
Land: (b) (6) Cell: (b) (6)
email: (b) (6)

On Mon, Apr 6, 2020 at 11:07 PM Robert Chen <(b) (6)> wrote:
Dear Colleagues,

Thanks again for all your help in making the Mar. 11-12 CEPI/BC Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines a success. Given how busy all of you are, to expedite converting our meeting products into a report for the journal Vaccine (example attached), I've recruited Dr. Donna Ambrosino, a longstanding student of this issue (CV attached). If you agree, she and her writing team have completed review the video and other meeting products and target to produce a first draft based on the attached outline in ~7 days for your review. Once you return your comments, we hope to arrive at a revised version during the following 7 days. Please reply only if you prefer NOT to be a coauthor. Otherwise you'll receive the draft manuscript for your review in ~7 days.

Best regards,

Robert (Bob) Chen MD MA
Scientific Director, Brighton Collaboration
Land: (b) (6) Cell: (b) (6)
email: (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 21 Apr 2020 11:14:51 +0000
To: Hiatt, Nissa (NIH/VRC) [C];Routh, Jennifer (NIH/NIAID) [E];Oplinger, Anne (NIH/NIAID) [E]
Subject: Fwd: Conversation about vaccines with IndieBio

If this is an investment group could someone tell them that I will not have time to help with this?

My interest is primarily in community education. If it's about investment advice or filling time on the 24 hour news cycle, then I will pass.

Telling people that we started fast and that it will be 12-18 months as stated a thousand times is not informative. When we have a new publication with a press release we could explain that. Otherwise, we could discuss how viruses cause illnesses or how vaccines work in more general terms.

Thanks,

Barney

Sent from my iPhone

Begin forwarded message:

From: Maya Lockwood <maya.lockwood@sosv.com>
Date: April 21, 2020 at 1:14:44 AM EDT
To: "Graham, Barney (NIH/VRC) [E]" (b) (6)>
Subject: Re: Conversation about vaccines with IndieBio

Hello Barney,

We would like to invite you to join Arvind Gupta, founder of IndieBio, on his podcast "Designing Science":

<https://podcasts.apple.com/us/podcast/indiebio-designing-science/id1445620988>

Some background on what we do at IndieBio:

IndieBio, a part of SOSV, enables scientists to become entrepreneurs and build breakthrough companies to solve the world's biggest challenges through biology as a technology. [SOSV](#) manages over \$700 million with a [portfolio](#) of over 950 deep-tech

startups. SOSV created the world's first life sciences accelerator in 2014, and in the past six years has backed 200 life science startups. The 950 startups in SOSV's portfolio have a combined valuation of over \$15 billion. We are focused now on accelerating Covid-19 diagnostics, vaccines, therapeutics and disinfection solutions.

The podcast would be recorded via zoom video conference in an hour, at your convenience.

Let us know if you are interested and would like to schedule some time? It would be such an honor to hear your perspective on Covid-19. Thank you.

On Thu, Apr 16, 2020 at 10:14 AM Arvind Gupta <arvind.gupta@sosv.com> wrote:
Thanks for the introduction Julie! Barney, great to meet you. Maya will follow up with you.

Best,
Arvind Gupta

General Partner, [SOSV](#)
Founder, [IndieBio](#)
m (b) (6)
[linkedin](#)
[Read about IndieBio here](#)

On Thu, Apr 16, 2020 at 4:45 AM Julie Wolf <julie.wolf@sosv.com> wrote:
Dear Barney,

I hope this email finds you well. We last worked together when you participated in the Smithsonian Outbreak Event with ASM. I've since moved to IndieBio, the world's leading Biotech accelerator.

We'd love to highlight your experience in vaccine development to a broad audience. Your work on the RSV vaccine, plus the work of you and your group on COVID (Kizzmekia Corbett is doing amazing scicomm!), provide you with unique insight into the long road for successful vaccine development.

I'm connecting you with IndieBio Founder Arvind Gupta, who hosts our Designing Science podcast. I hope we're able to find time to work together and highlight your experience for the next generation of vaccine scientists!

Thank you and take care,

Julie

--

Julie Wolf, Ph.D. - [SOSV](#)

Communications Director at IndieBio NY

Startups start here: Hardware - [HAX](#) Life Sciences - [IndieBio](#) Cross-Border
Internet - [Chinaccelerator](#) & [MOX](#) Food - [Food-X](#) Blockchain - [dlab](#)

Note: This email has been sent in line with SOSV's [Communication Policy](#)

Note: This email has been sent in line with SOSV's [Communication Policy](#)

--

All the Best,

Maya Lockwood, [SOSV](#)

Communications Director at IndieBio

Follow us on [Medium](#)

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Internet - [Chinaccelerator](#) & [MOX](#) Food - [Food-X](#) Blockchain - [dlab](#)

Note: This email has been sent in line with SOSV's [Communication Policy](#)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 16 Mar 2020 19:58:28 +0000
To: Hiatt, Nissa (NIH/VRC) [C]
Cc: Deatrck, Elizabeth (NIH/NIAID) [C]; Prince, Tasheema (NIH/VRC) [C]; NIAID Media Inquiries
Subject: Re: Interview request for Dr. Graham: New York Times

I can talk to her tonight if cleared.

Barney

Sent from my iPhone

On Mar 16, 2020, at 3:41 PM, Hiatt, Nissa (NIH/VRC) [C] [REDACTED] (b) (6) wrote:

Hi Elizabeth,
Thanks for sharing this NYT request. Looping in Dr. Graham here since the reporter would like to speak to him tonight.
Best,
Nissa

Nissa Hiatt
Communications
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg 40, Rm 1100
Bethesda, MD 20892
Office: [REDACTED] (b) (6)
Mobile: [REDACTED] (b) (6)
[REDACTED] (b) (6)

On Mar 16, 2020, at 3:38 PM, Deatrck, Elizabeth (NIH/NIAID) [C] [REDACTED] (b) (6) wrote:

Hi Nissa,

Good afternoon! We have a media request from the New York Times for Dr. Graham:

New York Times
Denise Grady
[REDACTED] (b) (6)

grady@nytimes.com

Seeking: Phone interview

Deadline: This evening

Denise has some questions about the novel coronavirus vaccine development, as well as on testing (probably the clinical trial). She specifically requested Dr. Graham. Will he have time to talk to her? If so, I can send for clearance.

Best,

Elizabeth Deatruck

Scientific Communications Editor

Employee of Cape Fox Shared Services

Contracted to work for the National Institute of Allergy and Infectious Diseases (NIAID)

(b) (6)

(b) (6)

Please note that I am not a spokesperson for NIAID and should not be quoted as such.

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Jan 2020 23:05:23 +0000
To: (b) (6)
Subject: RE: 2020 NIH Summer Internship Program Applicant - (b) (6)

Dear Jana,

Thank you for your interest in our laboratory. Unfortunately, we have limited space and have already committed the available slots for this summer. You are clearly off to a good start in your career as an investigator. I wish you the best in your future research and hope you maintain an interest in vaccines.

Best wishes,

Barney Graham

Barney S. Graham, MD, PhD
Senior Investigator
Deputy Director, Vaccine Research Center
Chief, Viral Pathogenesis Laboratory
Vaccine Research Center, NIAID, NIH
40 Convent Drive, MSC 3017
Bldg 40, Room 2502
Bethesda, MD 20892-3017
Phone: (b) (6)
URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

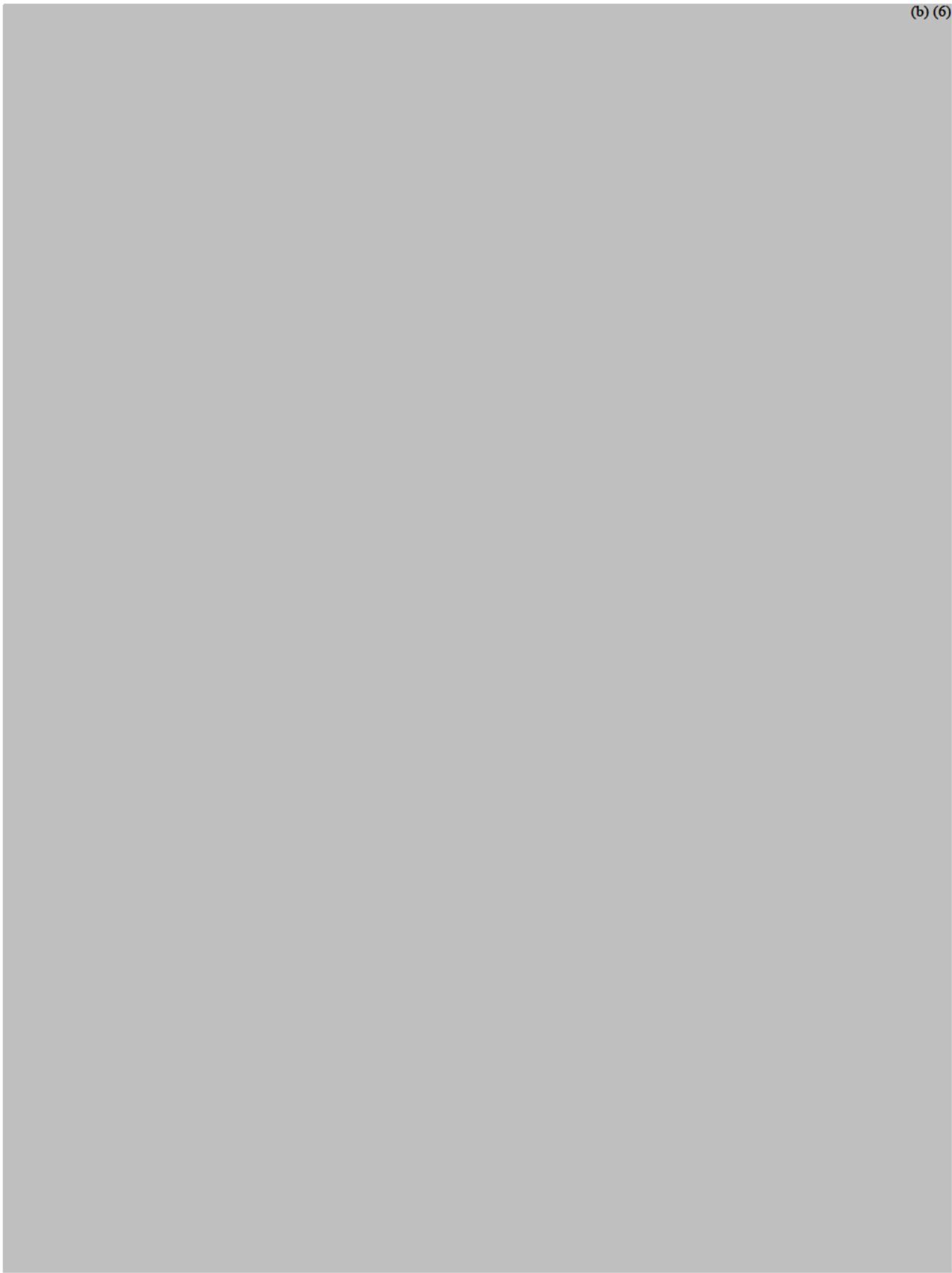
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From: (b) (6)
Sent: Wednesday, January 15, 2020 10:33 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: 2020 NIH Summer Internship Program Applicant - (b) (6)

Dear Dr. Graham,

My name is (b) (6) and I would like to join your lab in the summer of 2020 as a part of the NIH Summer Internship Program. I am currently a (b) (6) medical student at (b) (6)

(b) (6)
(b) (6)
(b) (6)



I have attached my resume to this email. For additional information, please feel free to contact me by email at (b) (6) or by phone at (b) (6). Thank you so much for your time and consideration, and I look forward to hearing from you.

Sincerely,

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 5 Apr 2020 15:19:33 +0000
To: Mascola, John (NIH/VRC) [E]
Cc: Ledgerwood, Julie (NIH/NIAID) [E];Koup, Richard (NIH/VRC) [E]
Subject: Re: Action items from April 3 virtual meeting

(b) (5)

BG

Sent from my iPhone

On Apr 5, 2020, at 11:09 AM, Mascola, John (NIH/VRC) [E] (b) (6) > wrote:

Julie,

Please see text in blue below.

Lets discuss (b) (5)

John

From: Corey MD, Larry (b) (6) >
Sent: Sunday, April 5, 2020 9:54 AM
To: Mascola, John (NIH/VRC) [E] (b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6); Dieffenbach, Carl (NIH/NIAID) [E] (b) (6)
Cc: Marston, Hilary (NIH/NIAID) [E] (b) (6)
Subject: RE: Action items from April 3 virtual meeting

Agree ;

From: Mascola, John (NIH/VRC) [E] (b) (6) >
Sent: Sunday, April 5, 2020 6:43 AM
To: Corey MD, Larry (b) (6) >; Erbelding, Emily (NIH/NIAID) [E] (b) (6); Dieffenbach, Carl (NIH/NIAID) [E] (b) (6)
Cc: Marston, Hilary (NIH/NIAID) [E] (b) (6) >
Subject: RE: Action items from April 3 virtual meeting

To same group – (b) (5)

I read this piece in Huffington post today (below). (b) (5)

(b) (5)

I could set that call in later in week.

John

POLITICS

04/04/2020 10:54 pm ET Updated 30 minutes ago

“Right now, Fauci is trying to roll out the most ambitious clinical trial ever implemented” to speed the development of a vaccine, a former senior administration official, who talks frequently to former colleagues, told the Post.”

From: Mascola, John (NIH/VRC) [E]

Sent: Sunday, April 5, 2020 9:36 AM

To: Corey MD, Larry (b) (6)>; Erbelding, Emily (NIH/NIAID) [E]

(b) (6)

Cc: Dieffenbach, Carl (NIH/NIAID) [E] (b) (6)>; Marston, Hilary (NIH/NIAID) [E]

(b) (6)

Subject: FW: Action items from April 3 virtual meeting

Larry, I assume you got this also? Let's review and we should coordinate our thoughts via email; i.e. specific responses to the 3 items below.

My initial thought is that (b) (5)

(b) (5)

John

From: Collins, Francis (NIH/OD) [E] (b) (6)
Sent: Saturday, April 4, 2020 10:17 AM
To: Collins, Francis (NIH/OD) [E] (b) (6)>
Cc: Wholley, David (FNIH) [T] (b) (6); James, Stephanie (FNIH) [T] (b) (6); Santos, Michael (FNIH) [T] (b) (6)>; Menetski, Joseph (FNIH) [T] (b) (6); Freire, Maria (FNIH) [T] <(b) (6)>; Wood, Gretchen (NIH/OD) [E] (b) (6)>; Parker, Ashley (NIH/OD) [E] (b) (6)>; Gladman, Jordan (NIH/NINDS) [E] (b) (6)
Subject: Action items from April 3 virtual meeting

Dear COVID-19 PPP Meeting Participant:

Thank you for your engagement in yesterday's virtual meeting. Please see attached the key action items, organized into the four focus areas that were identified. Each of these is proposed to be addressed by a working group of SMEs derived from participant organizations. As a next step, please engage with FNIH as follows:

- 1) Send David Wholley (b) (6) any major changes to the action item list or further suggestions for consideration by the groups.
- 2) Send Mike Santos (b) (6) your nominations for participants in each of the working groups (note: you do not have to provide a name nor do you need that person to be from your organization; we are looking for the best people to advance these action items expeditiously). For these working groups to be fully functional, we would like to keep their size at 15 or less.
- 3) Send Joe Menetski (b) (6) any further information regarding other collaborations or parallel effort we have not already captured in the Collaboration Landscape document we previously circulated (re-attached here for reference)

Please provide those responses no later than noon EDT on Monday April 6. We look forward to getting things moving rapidly. We plan to re-assemble the senior leadership group (the same individuals who met yesterday) in 2 – 3 weeks, expecting that significant progress will have been made by then.

Regards,

Francis Collins

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 15 Mar 2020 15:43:15 +0000
To: Harry Kleanthous
Cc: Lynda, Stuart
Subject: RE: Understanding ADE Risk
Attachments: Vaccine Enhanced Disease_commentary.docx

Hi Harry/Lynda,

I've probably spent >20 hours on calls and another 10 hours on documents this week between the clinical teams, DMID, WHO, CEPI-Brighton collaboration, journalists, etc. on the subject of vaccine enhanced disease. Can you tell me what exactly you want to talk about on this call? I am trying to find some time to write a commentary on this concern. Could I send you some documents I've already done in outline form to prepare for the trial (hopefully starting tomorrow).

Barney

From: Max Silverman (b) (6)
Sent: Monday, March 9, 2020 2:27 PM
To: Harry Kleanthous (b) (6); Maliha Anwar (b) (6); Jacqueline Kirchner (b) (6);> Graham, Barney (NIH/VRC) [E] (b) (6); Karen Makar (b) (6); Holger Kanzler (b) (6); David Veessler (b) (6)
Lynda, Stuart (b) (6)
Subject: Understanding ADE Risk

Dear Barney, Andrew, and David

The foundation team would like to set up a call to discuss the COVID-19 ADE risk and potential experiments to illuminate the implications on vaccine design.

The foundation team and Andrew Ward are available at the following times. Do any of these work for you Barney and David?

- March 16th 9:30-10:30 am
1:30 – 3:00 pm
- March 18th 11:30 am – 12:30 pm
- March 19th 11:00 am – 12:00 pm
- March 24th 9:00 am – 10:30 am

With Best Regards,
Max

Research Project Manager
Bill & Melinda Gates Medical Research Institute

T (b) (6) M (b) (6)
(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 1 Feb 2020 05:05:15 +0000
To: Pöhlmann, Stefan
Subject: Re: MERS-S manuscript

Hi Stephan. I'm not sure if I answered this yet. It is a little chaotic over here. We also have
[redacted] (b) (4)
over the next few days. I can let you know if we find anything. Still waiting for [redacted] (b) (4)
[redacted]

Barney

Sent from my iPhone

On Jan 24, 2020, at 2:31 PM, Pöhlmann, Stefan <[redacted] (b) (6)> wrote:

Dear Barney,

We hope that we will be able to [redacted] (b) (4) next week. Would you have [redacted] (b) (4) that we could test ins this assay within a collaborative study?

Best wishes

Stefan

Prof. Stefan Pöhlmann
Deutsches Primatenzentrum GmbH
Leibniz-Institut für Primatenforschung
Kellnerweg 4
37077 Göttingen
Germany

[redacted] (b) (6) (T)
++49 551 3851 184 (F)
e-mail: [redacted] (b) (6)
<http://www.dpz.eu>

Vorsitzender des Aufsichtsrates: MDirig. Rüdiger Eichel
Geschäftsführer: Prof. Dr. Stefan Treue, Assessor jur. Michael Lankeit
Sitz der Gesellschaft: Göttingen
Handelsregister: Göttingen HRB 933

Von: Graham, Barney (NIH/VRC) [E] [mailto: (b) (6)]
Gesendet: Freitag, 21. September 2018 14:56
An: Pöhlmann, Stefan
Cc: Wang, Lingshu (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [C]
Betreff: Re: AW: AW: AW: MERS-S manuscript

Hi Lingshu,

Let's send the (b) (4)

Thanks,

Barney

Sent from my iPhone

On Sep 21, 2018, at 8:37 AM, Pöhlmann, Stefan (b) (6) > wrote:

Dear Barney,

Thank you very much! It would be a huge help if you could (b) (4)
Would
this be possible?

Best wishes

Stefan

Prof. Stefan Pöhlmann
Deutsches Primatenzentrum GmbH
Leibniz-Institut für Primatenforschung
Kellnerweg 4
37077 Göttingen
Germany

(b) (6) (T)
++49 551 3851 184 (F)
e-mail: (b) (6)
<http://www.dpz.eu>

Von: Graham, Barney (NIH/VRC) [E] [mailto: (b) (6)]
Gesendet: Donnerstag, 20. September 2018 17:29
An: Pöhlmann, Stefan
Cc: Wang, Lingshu (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [C]
Betreff: Re: AW: AW: AW: MERS-S manuscript

Hi Stefan,

I have checked on this. We have [REDACTED] (b) (4), we are glad to share that.

Barney

Sent from my iPhone

On Sep 12, 2018, at 4:35 PM, Pöhlmann, Stefan [REDACTED] (b) (6) wrote:

Dear Barney,

Please remember to let me know if you could provide us with [REDACTED] (b) (4)

Many thanks.

Best regards

Stefan

Von: Graham, Barney (NIH/VRC) [E] [mailto:[REDACTED] (b) (6)]

Gesendet: Donnerstag, 9. August 2018 03:46

An: Pöhlmann, Stefan

Cc: Wang, Lingshu (NIH/VRC) [E]

Betreff: Re: AW: AW: MERS-S manuscript

The statement should be, "This work was supported in part by intramural funding from the National Institute of Allergy and Infectious Diseases."

Barney

Sent from my iPhone

On Aug 8, 2018, at 5:15 PM, Pöhlmann, Stefan <[REDACTED] (b) (6)> wrote:

Could you please also send me information regarding grant support? Thanks, Stefan

Von: Graham, Barney (NIH/VRC) [E] [mailto:[REDACTED] (b) (6)]

Gesendet: Mittwoch, 8. August 2018 23:03

An: Pöhlmann, Stefan

Cc: Wang, Lingshu (NIH/VRC) [E]
Betreff: Re: AW: MERS-S manuscript

OK. Sounds fine. In that case please add my middle initial "S."

Thank you,

Barney

Sent from my iPhone

On Aug 8, 2018, at 4:41 PM, Pöhlmann, Stefan [REDACTED] (b) (6) wrote:

Dear Barney,

Thanks for your mail. We included a sentence stating [REDACTED] (b) (4)
[REDACTED]. Listing Lingshu Wang in addition to yourself is no problem.

Best regards

Stefan

Von: Graham, Barney (NIH/VRC) [E] [mailto:[REDACTED] (b) (6)]
Gesendet: Mittwoch, 1. August 2018 21:21
An: Pöhlmann, Stefan; Hoffmann, Markus; Kleine-Weber, Hannah; Drosten, Christian
[REDACTED] (b) (6) Müller, Marcel Alexander; Mahmoud Tarek
Cc: Wang, Lingshu (NIH/VRC) [E]
Betreff: RE: MERS-S manuscript

Hi Stefan,

Thank you for sharing the paper with us. Well done! I agree with your interpretation and conclusions.
My major request would be [REDACTED] (b) (4)

[REDACTED] (b) (4)

Also, I think it would be best if you made Lingshu Wang the co-author instead of me because she did most of the work [REDACTED] (b) (4) I (or the VRC generically) could be in the acknowledgement section.

Best wishes,

Barney

From: Pöhlmann, Stefan (b) (6) >
Sent: Wednesday, August 01, 2018 6:39 AM
To: Hoffmann, Markus (b) (6) >; Kleine-Weber, Hannah (b) (6);
Drosten, Christian (b) (6) Müller, Marcel
Alexander (b) (6); Graham, Barney (NIH/VRC) [E] <(b) (6)>
Mahmoud Tarek (b) (6)
Subject: MERS-S manuscript
Importance: High

Dear colleagues,

Please find enclosed a manuscript reporting that (b) (4)
(b) (4)
(b) (4) We would like to submit the manuscript to JVI asap and are
looking forward to your comments.

Best regards

Stefan

Prof. Stefan Pöhlmann
Deutsches Primatenzentrum GmbH
Leibniz-Institut für Primatenforschung
Kellnerweg 4
37077 Göttingen
Germany

(b) (6) (T)
++49 551 3851 184 (F)
e-mail: (b) (6)
<http://www.dpz.eu>

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 7 Feb 2020 19:09:26 +0000
To: Wang, Lingshu (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; VRCHelp
Subject: RE: coVip Team Sharing folder (Ref:IN:01328412)

Yes, please add Lingshu Wang to this email group.

Barney

From: Wang, Lingshu (NIH/VRC) [E] <[REDACTED] (b) (6)>
Sent: Friday, February 7, 2020 2:07 PM
To: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)>; VRCHelp <VRCHelp@mail.nih.gov>
Cc: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>
Subject: Re: coVip Team Sharing folder (Ref:IN:01328412)

Hi Barney,
Could you please give me a permission to access to the CoV listserv.
Thanks,
lingshu

From: "Corbett, Kizzmekia (NIH/VRC) [E]" [REDACTED] (b) (6)>
Date: Thursday, February 6, 2020 at 3:32 PM
To: VRCHelp <VRCHelp@mail.nih.gov>
Cc: "Wang, Lingshu (NIH/VRC) [E]" [REDACTED] (b) (6)>, "Graham, Barney (NIH/VRC) [E]" [REDACTED] (b) (6)
Subject: FW: coVip Team Sharing folder (Ref:IN:01328412)

Can we have Lingshu Wang (cc'ed here) added for access to the VPL share folder. She should have read and write privileges similar to those granted for other lab meetings. Dr. Graham, the supervisor, is granting this permission as part of our coronavirus response efforts. Thanks.

[REDACTED] (b) (5)

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892

Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: "Wang, Lingshu (NIH/VRC) [E]" (b) (6) >
Date: Thursday, February 6, 2020 at 8:14 AM
To: "Luong, Johnny (NIH/NIAID) [C]" (b) (6) >, Kizzmekia Corbett
(b) (6) >
Cc: "Galloway, Derek (NIH/NIAID) [C]" <(b) (6)>, "Pasion, Spencer
(NIH/NIAID) [C]" <(b) (6) NIAID IT HELP <niaidithelp@niaid.nih.gov>
Subject: Re: coVip Team Sharing folder (Ref:IN:01328412)

Hi Kizzy,
Can you provide the information below?
Thanks,
lingshu

From: "Luong, Johnny (NIH/NIAID) [C]" (b) (6) >
Date: Wednesday, February 5, 2020 at 9:09 PM
To: "Wang, Lingshu (NIH/VRC) [E]" (b) (6) >
Cc: "Galloway, Derek (NIH/NIAID) [C]" (b) (6) >, "Pasion, Spencer
(NIH/NIAID) [C]" <(b) (6)>, NIAID IT HELP <niaidithelp@niaid.nih.gov>
Subject: coVip Team Sharing folder (Ref:IN:01328412)

Hi Lingshu,

Please provide the full path for the coVip Team Sharing folder drive, as well as written supervisor approval specifying what kind of access is being authorized (read, read and write, etc.). Once this has been provided, we will be able to request access. Thank you!

(b) (5)

****Please reply all to accommodate our ticketing system****

Thank you,
Johnny Luong
NIAID Central Service Desk Analyst
5601 Fishers Lane, Rockville, MD 20852

NIAID IT Service Desk
Email: ithelp@niaid.nih.gov
Phone (local): (301) 402-2502

This incident has the following details:

Incident Number: 01328412
Client Name: Lingshu Wang
VIP?:-
Subject: access to the coVip Team Sharing folder
Category: General
Priority: 3
Open Date: 2/5/2020 8:30 AM
Due Date: 2/6/2020 5:30 PM

Incident Description:

Sent: Wed, Feb 5, 2020 08:30 AM

From: (b) (6)

To: niaidithelp@niaid.nih.gov

Subject: access to the coVip Team Sharing folder

Hello,

I need to access to the coVip Team Sharing folder. I have a mac laptop and I am working at home these days. Would you be able to do remote help?

Thanks,
lingshu

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 24 Mar 2020 16:15:05 +0000
To: Kanekiyo, Masaru (NIH/VRC) [E]
Cc: Bok, Karin (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]
Subject: Re: Duke CIVICs Vaccine Center Semi-Annual Report - VRC
Attachments: image001.jpg

Thanks All

BG

Sent from my iPhone

On Mar 24, 2020, at 11:59 AM, Kanekiyo, Masaru (NIH/VRC) [E]

(b) (6) > wrote:

Forgot to attach...

From: "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6) >
Date: Tuesday, March 24, 2020 at 11:59 AM
To: "Bok, Karin (NIH/VRC) [E]" (b) (6), Barney Graham (b) (6) >
Cc: "Alvarado, Gabriela (NIH/VRC) [C]" <(b) (6)>
Subject: Re: Duke CIVICs Vaccine Center Semi-Annual Report - VRC

Only a few cosmetic changes. This looks fine to me.

Thanks,
Masaru

From: Isabel Wright (b) (6)
Date: Tuesday, March 24, 2020 at 10:04 AM
To: "Bok, Karin (NIH/VRC) [E]" (b) (6), Barney Graham (b) (6),
"Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6) >
Cc: Hilary Bouton-Verville (b) (6), "Tony Moody, M.D."
(b) (6) "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6) >
Subject: RE: Duke CIVICs Vaccine Center Semi-Annual Report - VRC

Hi Karin,

I just wanted to follow up on my previous email regarding the VRC Executive Summary (attached here).

We would like to incorporate it into the Duke CIVICs Component A Semi-Annual Report and were wondering if you've had a chance to review it. Please let me know if we need to make any edits/changes by the end of the day **tomorrow (3/25)**.

We realize this is a busy time with the COVID-19 situation, but we appreciate any feedback you could provide for this report.

Thanks!
Isabel

From: Isabel Wright
Sent: Tuesday, March 17, 2020 8:47 AM
To: Bok, Karin (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6); Kanekiyo, Masaru (NIH/VRC) [E] (b) (6)
Cc: Hilary Bouton-Verville (b) (6)>; Tony Moody, M.D. (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)>
Subject: RE: Duke CIVICs Vaccine Center Semi-Annual Report - VRC

Hi Karin,

We put together a draft of the VRC Executive Summary for the Duke CIVICs Component A Semi-Annual Report (attached here). As Tony mentioned, we pulled information from the VRC data package, target product profile, and GMP kickoff meeting. We hope this is a helpful starting point given the different project start date for the VRC, but please feel free to review and make any additional edits or changes.

Once the VRC approves the content, please return the file by **Monday, March 23, 2020** so that we may incorporate it into our report for submission.

Please let me know if you have any questions in the meantime.

Thank you,
Isabel

From: Bok, Karin (NIH/VRC) [E] (b) (6)>
Sent: Tuesday, March 10, 2020 11:20 AM
To: Tony Moody, M.D. (b) (6)>; Isabel Wright (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>; Kanekiyo, Masaru (NIH/VRC) [E] (b) (6)
Cc: Hilary Bouton-Verville (b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6)
Subject: Re: Duke CIVICs Vaccine Center Semi-Annual Report - VRC

Thank you! Happy to help with anything you need.

Karin.

Karin Bok, MS, PhD

Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health

phone: (b) (6) | mobile: (b) (6) | email: (b) (6)

<https://www.niaid.nih.gov/about/vrc>

From: "Tony Moody, M.D." (b) (6) >
Date: Tuesday, March 10, 2020 at 11:05 AM
To: Karin Bok (b) (6), Isabel Wright (b) (6), "Graham, Barney (NIH/VRC) [E]" (b) (6), "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6)
Cc: Hilary Bouton-Verville (b) (6) >, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6)
Subject: Re: Duke CIVICs Vaccine Center Semi-Annual Report - VRC

Hi Karin,

You are correct, and you are different from our other partners. The start date is the date of the whole contract but you would only talk about the stuff you've done with us since you got approved. We can probably pull the relevant info from the docs you have already sent us. I'll talk to Isabel and Hilary tomorrow and we can come back with specific questions for you if there are any.

Cheers,

T

--

From: "Bok, Karin (NIH/VRC) [E]" (b) (6)
Date: Tuesday, March 10, 2020 at 9:50 AM
To: Isabel Wright (b) (6), "Graham, Barney (NIH/VRC) [E]" (b) (6) >, "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6)
Cc: "Tony Moody, M.D." (b) (6) >, Hilary Bouton-Verville (b) (6), (b) (6) "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6) >
Subject: Re: Duke CIVICs Vaccine Center Semi-Annual Report - VRC

Hi Isabel,

Thank you for sharing this. I am a little bit confused about the date of the contract start. From the VRC point of view, we just got approved to move forward with this project in January 2020. Thus there is not much to update at this point other than we have held our first meeting and are in the process of getting the project started.

Thank you, let me know if I can help with anything else,

Karin.

Karin Bok, MS, PhD
Senior Advisor, Vaccine Development
Office of the Director, Vaccine Research Center
National Institute of Allergy and Infectious Diseases
National Institutes of Health
phone: (b) (6) mobile: (b) (6) | email: (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: Isabel Wright (b) (6) >
Date: Friday, March 6, 2020 at 4:25 PM
To: "Graham, Barney (NIH/VRC) [E]" (b) (6), Karin Bok <(b) (6)>
"Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6)
Cc: "Tony Moody, M.D." (b) (6), Hilary Bouton-Verville (b) (6) -
(b) (6)
Subject: Duke CIVICs Vaccine Center Semi-Annual Report - VRC

Good afternoon,

We are preparing the CIVICs Component A Semi-Annual Report, as required by NIAID, and we would like to include updates from the VRC. To capture all the information and updates since the start of the contract six months ago, NIAID provided their desired report template and we are asking that you please fill out the attached **Executive Summary template**, which spans September 10, 2019, through February 29, 2020. This is a high-level overview of your progress over the last six months. Instructions provided by NIAID for each section are in red font.

We ask that you please complete the attached report by **close of business on March 23, 2020**.

We realize this is a large undertaking but we appreciate all your help in assembling this information. As always, please reach out with any questions or concerns in the meantime.

All the best,
Isabel

Isabel Wright, MPH | Program Manager
Duke Human Vaccine Institute (DHVI)
2 Genome Court, MSRBII Rm. 3079
Durham, NC 27710
Phone: (b) (6)

<image001.jpg>

<CIVICs A Vaccine Center Semi-Annual Report_VRC_Draft_20200317_IW01_mk.docx>



From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 4 Mar 2020 14:28:52 +0000
To: Shanni Dhoofer
Subject: Accepted: CEPI/NIAID: COVID-19 - catch-up on projects

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 10 Apr 2020 21:09:32 +0000
To: Raja Kittappa
Subject: RE: Coronavirus research NIAAA

Dr. Kittappa,

Thank you for your email and I appreciate your dilemma. It looks like you are doing interesting COVID-19 work and I would be supportive of you continuing. However, I am not able to do an official collaboration, because it does not directly support our vaccine work.

Best wishes,

Barney

From: Raja Kittappa [REDACTED] (b) (6) >
Sent: Thursday, April 9, 2020 1:56 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) >
Subject: Coronavirus research NIAAA

Dear Dr Graham,

I read your recent paper in Science concerning the structure of the SARS-2 spike protein with great interest. I am reaching out over interest in getting involved with the Coronavirus research effort at NIH.

I am a stem cell scientist in the private sector living in DC. I received postdoctoral training at NIH-NINDS and have been collaborating with scientists at NIH, mostly in the NIAAA (the alcohol institute) where I have recently been a Special Volunteer. Most of my work with NIAAA has to do with birth defects caused by alcohol and other drugs/chemicals.

With my collaborator, Christina Barr at NIAAA, I am developing a new project which relates to Coronavirus. By some good luck,

[REDACTED] (b) (4), (b) (5)
[REDACTED] (b) (4), (b) (5)

In a second set of experiments,

(b) (4), (b) (5)

(b) (4), (b) (5)

(b) (5), (b) (4)

Can you steer us in the right direction? Is there a formal application process at NIAID that we should engage?

I would be grateful for any advice that you have, Dr Graham.

Thank you!

Dr Raj Kittappa

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Apr 2020 18:54:52 +0000
To: Sullivan, Nancy (NIH/VRC) [E]; Daucher, Marybeth (NIH/NIAID) [E]
Cc: Mascola, John (NIH/VRC) [E]; Koup, Richard (NIH/VRC) [E]; Ledgerwood, Julie (NIH/NIAID) [E]
Subject: RE: Service to America Medals – Congratulations!

Thanks Nancy, I think my quote is fine.

BG

From: Sullivan, Nancy (NIH/VRC) [E] (b) (6)
Sent: Thursday, April 23, 2020 2:23 PM
To: Daucher, Marybeth (NIH/NIAID) [E] (b) (6)>
Cc: Mascola, John (NIH/VRC) [E] (b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6)>; Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: RE: Service to America Medals – Congratulations!

All,

Thanks again for your support for this award. Assuming no further response means approval, the document will be submitted today.

Best,
Nancy

From: Sullivan, Nancy (NIH/VRC) [E]
Sent: Tuesday, April 21, 2020 5:51 PM
To: Daucher, Marybeth (NIH/NIAID) [E] (b) (6)>
Cc: Mascola, John (NIH/VRC) [E] (b) (6); Koup, Richard (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)>
Subject: Re: Service to America Medals – Congratulations!

Thanks Marybeth. Please feel free to edit as appropriate and/or pass along to NIAID. I will await edits and approval before sending back to them.

Nancy

On Apr 21, 2020, at 4:53 PM, Daucher, Marybeth (NIH/NIAID) [E] (b) (6)> wrote:

Congratulations Nancy – as you can see, this is well-deserved. My only concern is (b) (5)

From: Sullivan, Nancy (NIH/VRC) [E] <(b) (6)>
Sent: Tuesday, April 21, 2020 4:41 PM
To: Mascola, John (NIH/VRC) [E] (b) (6); Koup, Richard (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) Graham, Barney (NIH/VRC) [E] (b) (6); Daucher, Marybeth (NIH/NIAID) [E] (b) (6)
Subject: FW: Service to America Medals – Congratulations!

All,

The SAMMIES organizers plan to include the attached profile on finalists in their press package Thursday. Please let me know if you have suggested edits or if it needs to go to NIAID for pre-release review and approval.

Many thanks for nominating me and for your kind statements on my behalf.

Thanks,
Nancy

From: Nola Tolsma <NTolsma@ourpublicservice.org>
Sent: Tuesday, April 21, 2020 2:32 PM
To: Sullivan, Nancy (NIH/VRC) [E] (b) (6)
Cc: Bob Cohen <bcohen@ourpublicservice.org>; Paul Pietsch <PPietsch@ourpublicservice.org>
Subject: Re: Service to America Medals – Congratulations!

Nancy:

Congratulations again on your status as a finalist for this year's Sammies. Attached, please find your Service to America Medal finalist profile. This profile is prepared by our communications team to summarize your work and accomplishments—both for recognizing you as a Sammies finalist and for having the selection committee vote for the award recipients. Please review and reply all to send Bob Cohen and me any corrections by COB Thursday, April 23. Please use track changes if you have specific edits to the article.

Please note that our profiles follow a set Partnership style and length in order to present the finalists' stories as group and keep them consistent. Generally, we are not able to incorporate style or format changes or add to the length. Any requested additions may result in other information being eliminated.

We want to be sure you have an opportunity to **correct or clarify** the details of your accomplishment or address any sensitive issues we've included. The purpose of this **review is for accuracy**. For example, we follow Associated Press style, which means we do not capitalize the words government, federal or veterans. When an individual's title follows their name, we

use lower case. Changes like this will be reverted to AP style. The brief summaries at the top of the profile have been carefully crafted to capture your accomplishment as succinctly as possible.

If you need to request approval by your public affairs office, please forward our note that we are only seeking comments on content that may be inaccurate or inappropriate to share publicly. We wish to discourage any rewriting of the profile that is simply a matter of preference or style.

Please let us know if you have any questions or if you require additional time to review the profile.

Thank you very much for the time you've taken to speak with our team about your work. It's been a pleasure learning about your accomplishments on behalf of the government.

Sincerely,
Nola

Nola Tolsma
Point of Contact, Service to America Medals program
(202) 869-3084
ntolsma@ourpublicservice.org

From: Paul Pietsch <PPietsch@ourpublicservice.org>
Date: Wednesday, April 8, 2020 at 10:50 AM
To: "Sullivan, Nancy (NIH/VRC) [E]" <[REDACTED]> (b) (6)
Cc: Sammies <Sammies@ourpublicservice.org>, Meredith Huddle <MHuddle@ourpublicservice.org>, Nola Tolsma <NTolsma@ourpublicservice.org>, Paul Pietsch <PPietsch@ourpublicservice.org>
Subject: Service to America Medals – Congratulations!

Dear Nancy,

Congratulations! I am pleased to announce that you have officially been **selected as a finalist for the 2020 Samuel J. Heyman Service to America Medals!** Your achievements, and those of your fellow finalists, are a powerful testimony to the many ways civil servants make a difference in our country every day.

Usually, we announce our Sammies finalists at a tribute breakfast on Capitol Hill. However, due to the present restrictions around in-person gatherings, we will be announcing this year's finalists

virtually. To do so, we will be recording short audio clips of each of you to share and spotlight during [Public Service Recognition Week](#) (May 3-9).

The purpose of these clips is to introduce you as finalists and share your accomplishments with the Partnership's robust audience. These clips will be recorded via conference call with Meredith Huddle, our Associate Communications Manager (copied here). Please send her your earliest availability to MHuddle@ourpublicservice.org.

As previously requested, please keep your status as a finalist confidential until the public announcement in May. We will follow up with you shortly to review and approve the profile article that our communications team is writing about your accomplishments.

We will also be informing your nominator, agency leaders and members of Congress of your status as a finalist. We hope you and they will utilize the materials we send out later this month to promote your achievement and the Sammies program during Public Service Recognition Week.

Thank you for your outstanding service to our nation. If you have any questions or need additional information about the Partnership or the Service to America Medals program, please do not hesitate to contact me or our Sammies program manager, Nola Tolsma (who is CC'd).

On a personal note, I want to sincerely thank you and all your colleagues at NIAID for guiding the country through the COVID-19 pandemic. Your work is so critical and inspirational. I hope you are doing well in this challenging time.

Best,
Paul

Paul M. Pietsch

Senior Manager, Research & Analysis

Partnership for Public Service

ppietsch@ourpublicservice.org

(202) 843-0467

Follow us on [Facebook](#), [Twitter](#) and [Instagram](#)!

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 16 Apr 2020 13:18:41 +0000
To: Hiatt, Nissa (NIH/VRC) [C]
Subject: RE: Conversation about vaccines with IndieBio

If its an investment firm then I am not willing to participate. Thank you for noticing that.

BG

From: Hiatt, Nissa (NIH/VRC) [C] (b) (6)
Sent: Thursday, April 16, 2020 9:01 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: RE: Conversation about vaccines with IndieBio

Good morning Barney,

Thank you for sharing this request -it does look interesting if they cover the full vaccine development cycle. One note is that this is a venture capital firm that produces the podcast rather than a traditional media outlet. (b) (5)

If you would like to participate, could you share a general timeframe (in 1 week or even 3 weeks) of when you might be available and I'll follow up with OCGR.

Best,
Nissa

Nissa Hiatt
Communications
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg 40, Room 1100
Bethesda, MD 20892
Cell: (b) (6)
Office: (b) (6)
(b) (6)



From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Thursday, April 16, 2020 7:51 AM
To: Hiatt, Nissa (NIH/VRC) [C] <(b) (6)>

Cc: Routh, Jennifer (NIH/NIAID) [E] (b) (6); Oplinger, Anne (NIH/NIAID) [E] (b) (6)>

Subject: FW: Conversation about vaccines with IndieBio

FYI. This may be interesting because they want to discuss not just the pandemic but how do we develop the next generation of scientists.

Barney

From: Julie Wolf <julie.wolf@sosv.com>

Sent: Thursday, April 16, 2020 7:44 AM

To: Graham, Barney (NIH/VRC) [E] <(b) (6)>

Cc: Maya Lockwood <maya.lockwood@sosv.com>; Arvind Gupta <arvind.gupta@sosv.com>

Subject: Conversation about vaccines with IndieBio

Dear Barney,

I hope this email finds you well. We last worked together when you participated in the Smithsonian Outbreak Event with ASM. I've since moved to IndieBio, the world's leading Biotech accelerator.

We'd love to highlight your experience in vaccine development to a broad audience. Your work on the RSV vaccine, plus the work of you and your group on COVID (Kizzmekia Corbett is doing amazing scicomm!), provide you with unique insight into the long road for successful vaccine development.

I'm connecting you with IndieBio Founder Arvind Gupta, who hosts our Designing Science podcast. I hope we're able to find time to work together and highlight your experience for the next generation of vaccine scientists!

Thank you and take care,

Julie

--

Julie Wolf, Ph.D. - [SOSV](#)

Communications Director at IndieBio NY

Startups start here: Hardware - [HAX](#) Life Sciences - [IndieBio](#) Cross-Border Internet - [Chinaccelerator](#) & [MOX](#) Food - [Food-X](#) Blockchain - [dlab](#)

Note: This email has been sent in line with SOSV's [Communication Policy](#)

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 2 Apr 2020 15:11:06 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Cc: Mascola, John (NIH/VRC) [E];Gall, Jason (NIH/VRC) [C];Stein, Judy (NIH/VRC) [C]
Subject: RE: Shipment of (b) (4) to Vir (b) (4) Site

FYI. (b) (4), (b) (5)
(b) (4), (b) (5)

Barney

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Sent: Thursday, April 2, 2020 10:49 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: FW: Shipment of (b) (4) to Vir (b) (4) Site

Let me know what data you would like to transfer here.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: Jennifer Watt (b) (6)
Date: Thursday, April 2, 2020 at 10:46 AM
To: Kizzmekia Corbett (b) (6)>, Kaitlyn Morabito
(b) (6)>
Cc: Isabella Giacchetto (b) (6), Elisabetta Cameroni (b) (6)>, Katja

Fink (b) (6)>, Filippo Riva (b) (6), Kimberly Sogi (b) (6), "Wang, Lingshu (NIH/VRC) [E]" (b) (6)
Subject: RE: Shipment of (b) (4) to Vir (b) (4) Site

Hi Kizzmekia,

Hope you are well. Just checking in on the (b) (4).

Thanks again,
Jen

Jennifer Watt
VP, Alliance Management
Vir Biotechnology, Inc.
(b) (6)

This message may be confidential. Use or disclosure by anyone other than an intended addressee is prohibited. If you received this message in error, please delete it and advise the sender by reply email.

From: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>
Sent: Monday, March 30, 2020 7:41 AM
To: Jennifer Watt (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Cc: Isabella Giacchetto (b) (6)>; Elisabetta Cameroni <(b) (6)>; Katja Fink (b) (6)>; Filippo Riva (b) (6); Kimberly Sogi (b) (6); Wang, Lingshu (NIH/VRC) [E] (b) (6)>
Subject: Re: Shipment of (b) (4) to Vir (b) (4) Site

Good morning,
I will send an email with the (b) (4).

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: Jennifer Watt (b) (6)
Date: Monday, March 30, 2020 at 10:39 AM
To: Kizzmekia Corbett (b) (6)>, Kaitlyn Morabito (b) (6)>
Cc: Isabella Giacchetto (b) (6), Elisabetta Cameroni (b) (6), Katja Fink (b) (6), Filippo Riva (b) (6)>, Kimberly Sogi (b) (6)>
Subject: RE: Shipment of (b) (4) to Vir (b) (4) Site

Thanks so much Kizzmekia!

Are you including the (b) (4) data with the shipment or should we obtain that separately?

Happy to set up a secure electronic transfer for that data if preferred.

Kind regards,
Jennifer

Jennifer Watt
VP, Alliance Management
Vir Biotechnology, Inc.
(b) (6)

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From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Sent: Monday, March 30, 2020 6:36 AM
To: Jennifer Watt (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>
Cc: Isabella Giacchetto <(b) (6)>; Elisabetta Cameroni (b) (6)>; Katja Fink (b) (6)>; Filippo Riva (b) (6)>; Kimberly Sogi (b) (6)
Subject: Re: Shipment of (b) (4) to Vir (b) (4) Site

Shipping this (b) (4) today.

--

Kizzmekia S. Corbett, PhD
Senior Research Fellow | Scientific Lead
Coronavirus Vaccines & Immunopathogenesis (coVip) Team
Viral Pathogenesis Laboratory | Vaccine Research Center
National Institutes of Allergy and Infectious Diseases
National Institutes of Health

Building 40 Room 2608
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: Jennifer Watt (b) (6)
Date: Tuesday, March 24, 2020 at 12:17 PM
To: Kaitlyn Morabito (b) (6) >
Cc: Kizzmekia Corbett (b) (6) >, Isabella Giacchetto (b) (6)
Elisabetta Cameroni (b) (6) >, Katja Fink (b) (6) >, Filippo Riva
(b) (6) >, Kimberly Sogi (b) (6) >
Subject: Shipment of (b) (4) to Vir (b) (4) Site

Dear Kaitlyn, Kizzmekia:

Hope this finds you both well. Clarifying logistical information below.

The key people for shipment to Vir are Isabella Giacchetto (b) (6) and Elisabetta Cameroni (b) (6).

The shipping address is:

(b) (4)

For any logistical questions, please coordinate with Isabella and Elisabetta (both are cc'ed on this email) but keep everyone here in cc.

QUANTITY (b) (4) to ship: we will advise asap.

Accompanying information: VRC will provide the (b) (4) with the shipment (pls confirm)

Many thanks for your assistance!

Please call with any questions: (b) (6)

Best,

Jen

Jennifer Watt
VP, Alliance Management
Vir Biotechnology, Inc.

(b) (6)

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From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) >
Sent: Tuesday, March 24, 2020 8:21 AM
To: Jennifer Watt (b) (6) >
Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Subject: Re: Next steps --: [EXTERNAL] (b) (4) data

Hi Jennifer,

No we have not received any shipping information, and our typical pipeline is to send to (b) (4) with the shipment for organizational purposes. If you can provide an amount and shipping info, we can send the material and data.

Thanks,
Kaitlyn

From: Jennifer Watt (b) (6)
Date: Tuesday, March 24, 2020 at 11:19 AM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6) >
Subject: RE: Next steps --: [EXTERNAL] (b) (4) data

Hi Kaitlyn,

Hope this finds you well. I took everyone else off of the email chain, as I'm just checking in on logistical questions.

- Did you get the shipping info you needed and (b) (4) quantity?
- Were you / Kizzmekia able to share the (b) (4)

I know there are hundreds of emails flying around so I just wanted to be sure I didn't miss anything, and that I can follow up on our end if needed!

Thanks,
Jen

Vir Biotechnology, Inc.
(b) (6)

(b) (6)

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From: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>
Sent: Monday, March 16, 2020 5:09 AM
To: Jennifer Watt (b) (6)>
Cc: Kimberly Sogi (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Wang, Lingshu (NIH/VRC) [E] (b) (6) Alvarado, Gabriela (NIH/VRC) [C] <(b) (6)>; Bok, Karin (NIH/VRC) [E] (b) (6)
Subject: Re: Next steps --: [EXTERNAL] (b) (4) data

Hi Jennifer,

It looks like Davide setup a call with Barney this morning. Is this the joint meeting you were referring to, or a separate call? If another call is needed, we can set that up as well.

The (b) (4) and Kizzmekia can share the (b) (4) (b) (4) and initiate shipment of (b) (4) to you. Can you please provide shipping information and how much (b) (4) you would need initially?

Thanks,
Kaitlyn

--

Kaitlyn M. Morabito, M.S., Ph.D.
Scientific Program Manager, Vaccine Development for RSV and Emerging Viral Diseases
Viral Pathogenesis Laboratory, Vaccine Research Center
National Institutes of Allergy and Infectious Diseases, NIH
Bldg. 40, Rm. 2508
40 Convent Drive
Bethesda, MD 20892
(b) (6)

From: Jennifer Watt (b) (6)
Date: Friday, March 13, 2020 at 12:04 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)
Cc: Kimberly Sogi (b) (6)>
Subject: Next steps --: [EXTERNAL] (b) (4) data

Hi Kaitlyn,

To keep this moving along, a couple of quick questions:

- [REDACTED] (b) (4)

- Shall we aim for a joint meeting early next week? Ideally this would be early Pacific time, as our colleagues from Switzerland will likely dial in. So, perhaps 10am ET Mon or Tues? I'm sure it's hard on your end, so we'll try to be flexible.

- [REDACTED] (b) (4)

Thanks much!
Jen

Jennifer Watt
VP, Alliance Management
Vir Biotechnology, Inc.
[REDACTED] (b) (6)

This message may be confidential. Use or disclosure by anyone other than an intended addressee is prohibited. If you received this message in error, please delete it and advise the sender by reply email.

From: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Thursday, March 12, 2020 11:52 AM
To: Davide Corti <[REDACTED] (b) (6)>; Bolyon Hubby [REDACTED] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)
Cc: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Jennifer Watt [REDACTED] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6); Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6); Gall, Jason (NIH/VRC) [C] [REDACTED] (b) (6)>; Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>; Skip Virgin [REDACTED] (b) (6)>
Subject: [EXTERNAL] [REDACTED] (b) (4) data

Hi All,

Since RCA is done, we can share information.

[REDACTED] (b) (4)

Kaitlyn (for now) can be POC.

Thanks,

John

From: (b) (6)
Sent: Fri, 17 Apr 2020 21:48:57 -0400
To: Sujan Shresta
Subject: Re: Request for a letter of support

Thank you for your email and for sharing your ideas. I like what you are planning to do and appreciate the effort. Unfortunately, I cannot write the type of letter you are asking for. As an intramural NIH government employee I can't recommend a project to be funded to the extramural NIH.

I can write a letter of collaboration to show that I'm sharing reagents or tasks. However, at the moment we are too busy to help with that. I would ask (b) (4), (b) (6) for a letter of support.

Best wishes,

Barney

Sent from my iPhone

On Apr 17, 2020, at 6:56 PM, Sujan Shresta (b) (6) wrote:

Dear Dr. Graham,

We met several years ago in Japan at the Awaji conference. My lab studies flaviviral immunology using mouse models.

I am writing to see if you would be willing to provide a letter of support for a (b) (6), (b) (4)
(b) (6), (b) (4)

Thank you for your help.

Sincerely,

Sujan

Sujan Shresta, Ph.D.
Associate Professor
Center for Infectious Disease and Vaccine Research
La Jolla Institute for Immunology
9420 Athena Circle
La Jolla, CA 92037

(b) (6)

<https://www.lji.org/faculty-research/labs/shresta/#overview>

(b) (6), (b) (4)