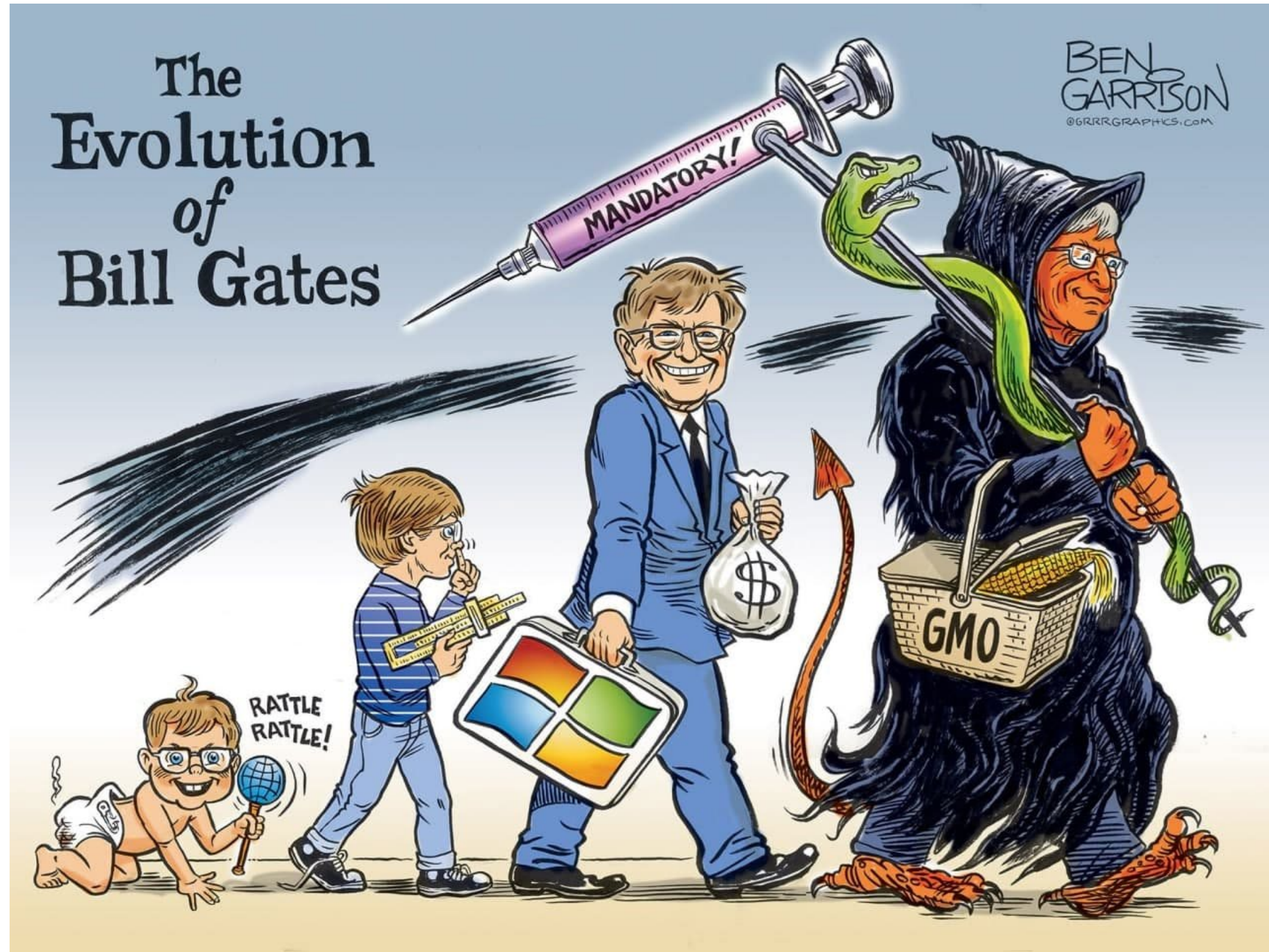
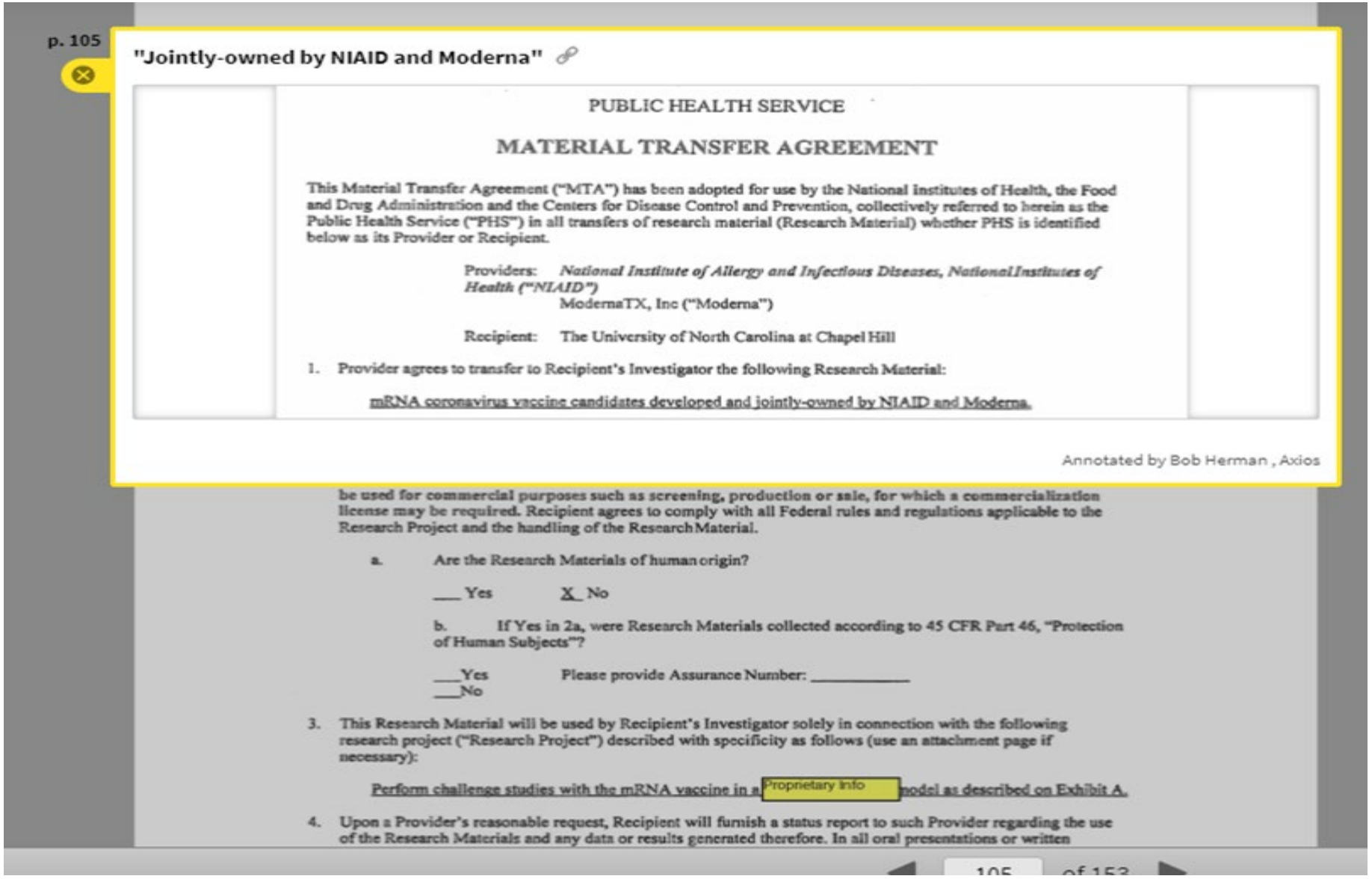

The Evolution of Bill Gates
BEN GARRISON
@GRRRGRAPHICS.COM
MANDATORY!
GMO
RATTLE RATTLE!

NIAID-Moderna vaccin deal 2014-2020



p. 105

"Jointly-owned by NIAID and Moderna"

PUBLIC HEALTH SERVICE

MATERIAL TRANSFER AGREEMENT

This Material Transfer Agreement ("MTA") has been adopted for use by the National Institutes of Health, the Food and Drug Administration and the Centers for Disease Control and Prevention, collectively referred to herein as the Public Health Service ("PHS") in all transfers of research material (Research Material) whether PHS is identified below as its Provider or Recipient.

Providers: *National Institute of Allergy and Infectious Diseases, National Institutes of Health ("NIAID")*
ModernaTX, Inc ("Moderna")

Recipient: The University of North Carolina at Chapel Hill

1. Provider agrees to transfer to Recipient's Investigator the following Research Material:

mRNA coronavirus vaccine candidates developed and jointly-owned by NIAID and Moderna.

Annotated by Bob Herman , Axios

be used for commercial purposes such as screening, production or sale, for which a commercialization license may be required. Recipient agrees to comply with all Federal rules and regulations applicable to the Research Project and the handling of the Research Material.

a. Are the Research Materials of human origin?

___ Yes X No

b. If Yes in 2a, were Research Materials collected according to 45 CFR Part 46, "Protection of Human Subjects"?

___Yes Please provide Assurance Number: _____
___No

3. This Research Material will be used by Recipient's Investigator solely in connection with the following research project ("Research Project") described with specificity as follows (use an attachment page if necessary):

Perform challenge studies with the mRNA vaccine in a Proprietary Info model as described on Exhibit A.

4. Upon a Provider's reasonable request, Recipient will furnish a status report to such Provider regarding the use of the Research Materials and any data or results generated therefore. In all oral presentations or written

105 of 153

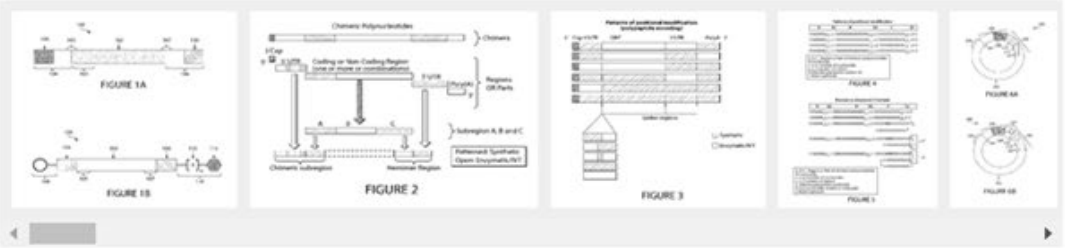
Nucleic Acid Vaccines

Nucleic acid vaccines

Abstract

The invention relates to compositions and methods for the preparation, manufacture and therapeutic use ribonucleic acid vaccines (NAVs) comprising polynucleotide molecules encoding one or more antigens.

Images (86)



Classifications

A61K39/145 Orthomyxoviridae, e.g. influenza virus

View 18 more classifications

US20160331828A1
United States

Download PDF | Find Prior Art | Similar

Inventor: Giuseppe Ciaramella, Axel Bouchon, Eric Yi-Chun Huang

Current Assignee : ModernaTx Inc

Worldwide applications

2015 • WO BR RU *SG SG* CN JP CA AU EP *RU* 2016 • US US
2018 • US US US

Application US15/091,123 events

2014-04-23 • Priority to US201461983250P
2016-04-05 • Application filed by Moderna Therapeutics Inc
2016-11-17 • Publication of US20160331828A1
2018-01-23 • Application granted
2018-01-23 • Publication of US9872900B2
Status • Active
2035-04-23 • Anticipated expiration

Show all events

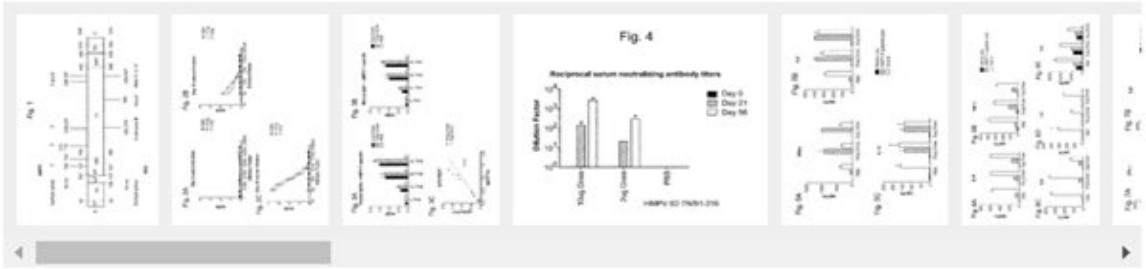
https://patents.google.com/patent/US20160331828A1/en

Sequenties

Abstract

The disclosure relates to respiratory virus ribonucleic acid (RNA) vaccines and combination vaccines, as well as methods of using the vaccines and compositions comprising the vaccines.

Images (24)



Classifications

A61K39/155 Paramyxoviridae, e.g. parainfluenza virus

View 19 more classifications

US10272150B2
United States

Download PDF | Find Prior Art | Similar

Inventor: Giuseppe Ciaramella, Sunny Himansu

Current Assignee : ModernaTx Inc , Moderna Inc

Worldwide applications

2016 • EP EP WO *TW* 2017 • US 2018 • US 2019 • US US 2020 • US US US

Application US16/040,981 events

2015-10-22	• Priority to US201562244946P
2018-07-20	• Application filed by ModernaTx Inc
2018-11-15	• Publication of US20180326045A1
2019-04-30	• Application granted
2019-04-30	• Publication of US10272150B2
Status	• Active
2036-10-21	• Anticipated expiration

Show all events

Info: Patent citations (188), Non-patent citations (104), Cited by

https://patents.google.com/patent/US10272150B2/en

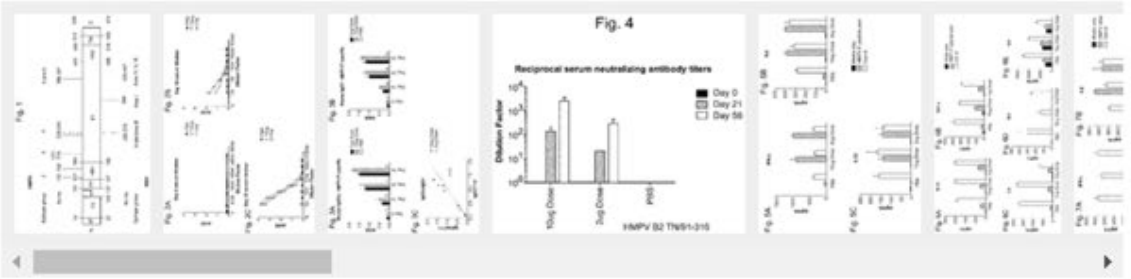
Sequence LNP

Betacoronavirus mRNA vaccine

Abstract

The disclosure relates to respiratory virus ribonucleic acid (RNA) vaccines and combination vaccines, as well as methods of using the vaccines and compositions comprising the vaccines.

Images (24)



Classifications

A61K39/155 Paramyxoviridae, e.g. parainfluenza virus

View 20 more classifications

US10702600B1
United States

Download PDF | Find Prior Art | Similar

Inventor: Giuseppe Ciaramella, Sunny Himansu

Current Assignee : ModernaTx Inc

Worldwide applications

2016 • EP EP WO *TW* 2017 • US 2018 • US 2019 • US US
2020 • US US US US

Application US16/805,587 events

2015-10-22	• Priority to US201562245031P
2020-02-28	• Application filed by ModernaTx Inc
2020-06-25	• Publication of US20200197510A1
2020-07-07	• Application granted
2020-07-07	• Publication of US10702600B1
Status	• Active
2036-10-21	• Anticipated expiration

Show all events

https://patents.google.com/patent/US10702600B1/en

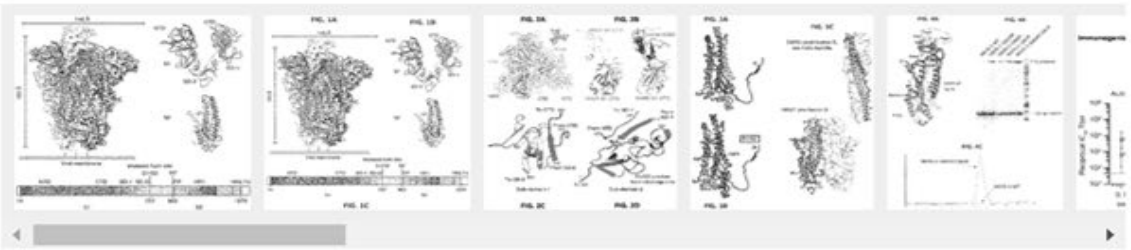
Proline and furin

Prefusion coronavirus spike proteins and their use

Abstract

Coronavirus S ectodomain trimers stabilized in a prefusion conformation, nucleic acid molecules and vectors encoding these proteins, and methods of their use and production are disclosed. In several embodiments, the coronavirus S ectodomain trimers and/or nucleic acid molecules can be used to generate an immune response to coronavirus in a subject. In additional embodiments, the therapeutically effective amount of the coronavirus S ectodomain trimers and/or nucleic acid molecules can be administered to a subject in a method of treating or preventing coronavirus infection.

Images (24)



Classifications

A61K39/12 Viral antigens

View 7 more classifications

US10960070B2
United States

Download PDF | Find Prior Art | Similar

Inventor: Barney Graham, Jason McLellan, Andrew Ward, Robert Kirchdoerfer, Christopher Cottrell, Michael Gordon Joyce, Masaru Kanekiyo, Nianshuang Wang, Jesper Pallesen, Hadi Yassine, Hannah Turner, Kizzmekia Corbett

Current Assignee : Dartmouth College , US Department of Health and Human Services , Scripps Research Institute

Worldwide applications

2017 · US *WO* EP

Application US16/344,774 events

2016-10-25 • Priority to US201662412703P

2017-10-25 • Application filed by Dartmouth College, Scripps Research Institute, US Department of Health and Human Services

2020-02-27 • Publication of US20200061185A1

2021-03-30 • Publication of US10960070B2

2021-03-30 • Application granted

https://patents.google.com/patent/US10960070B2/en

The Scripps Research Institute

Grantee Website → La Jolla, California, United States

Purpose

To make progress towards influenza and malaria vaccines that will be of great benefit for global health

DIVISION	DATE	REGION SERVED	COMMITTED AMOUNT
Global Health	NOVEMBER 2017	GLOBAL	$13,846,832

GRANT TOPIC	DURATION (MONTHS)	GRANTEE LOCATION
Discovery and Translational Sciences, Malaria, Pneumonia	47	La Jolla, California, United States

Department of Immunology and Microbiology

Faculty

Kristian G. Andersen, PhD

Professor
Department of Immunology and Microbiology
California Campus

Laboratory Website

Scripps Research Joint Appointments

Professor, Department of Integrative Structural and Computational Biology
Director of Infectious Disease Genomics, Translational Research Institute
Faculty, Graduate Program

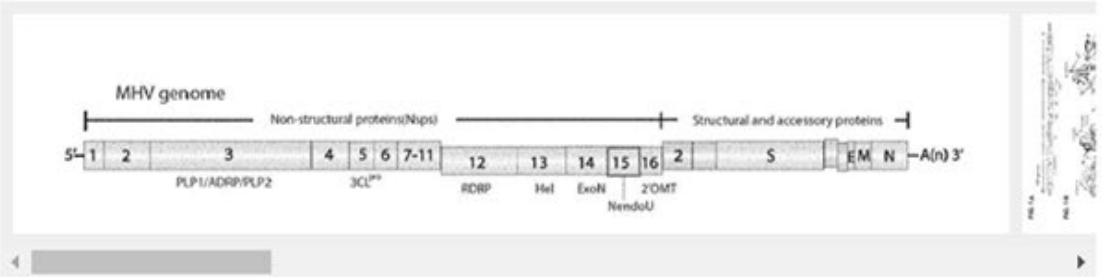
replication

Coronaviruses, vaccines comprising the same, and methods for preventing disease

Abstract

Coronaviruses, vaccines comprising the same, and methods for preventing disease. One embodiment of such includes a live, attenuated coronavirus comprising a variant replicase gene encoding polyproteins comprising a non-structural protein (nsp)-15, the replicase gene encoding the nsp15 and causes any change, including mutations and/or deletions, that affects the stability or activity of the nsp15.

Images (20)



Classifications

A61K39/12 Viral antigens

View 11 more classifications

US20180333482A1
United States

Download PDF | Find Prior Art | Similar

Inventor: Susan Baker, Xufang Deng, Matthew Hackbart, Robert Mettelman, Anna Mielech, Amornrat O'Brien, Kay Faaberg, Kelly Milton Lager

Current Assignee : Loyola University Chicago , US Department of Agriculture USDA

Worldwide applications

2018 • CA US ~~KR~~ JP *BR* CN WO *RU* EP 2019 • *PH*

Application US15/910,617 events

2017-03-03 • Priority to US201762466779P

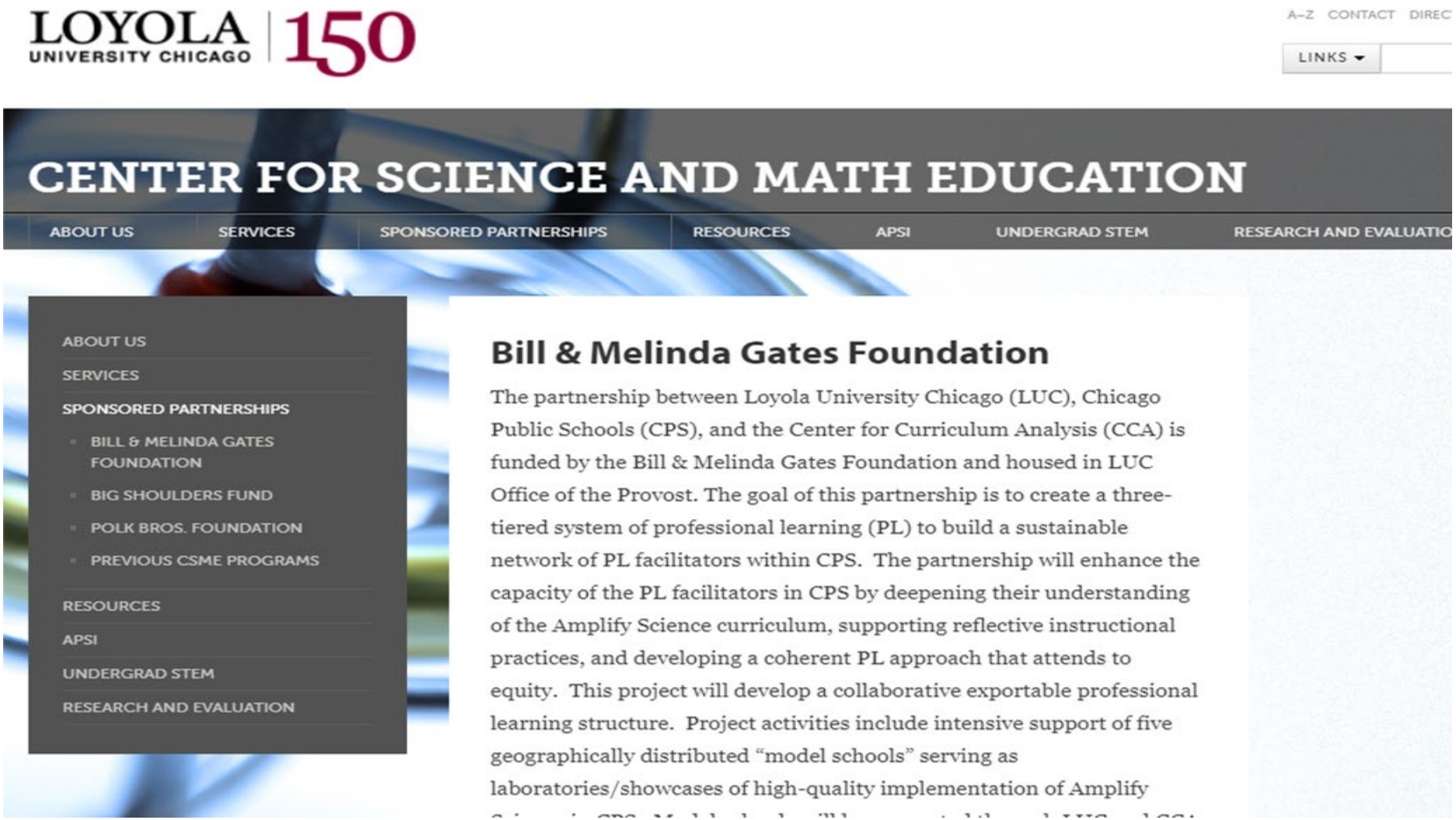
2018-03-02 • Application filed by Loyola University Chicago, US Department of Agriculture USDA

2018-03-02 • Priority to US15/910,617

2018-04-24 • Assigned to LOYOLA UNIVERSITY CHICAGO

2018-07-11 • Assigned to THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY OF AGRICULTURE

https://patents.google.com/patent/US20180333482A1/en


LOYOLA UNIVERSITY CHICAGO 150
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RESOURCES
APSI
UNDERGRAD STEM
RESEARCH AND EVALUATIO
ABOUT US
SERVICES
SPONSORED PARTNERSHIPS
BILL & MELINDA GATES FOUNDATION
BIG SHOULDERS FUND
POLK BROS. FOUNDATION
PREVIOUS CSME PROGRAMS
RESOURCES
APSI
UNDERGRAD STEM
RESEARCH AND EVALUATION
Bill & Melinda Gates Foundation
The partnership between Loyola University Chicago (LUC), Chicago Public Schools (CPS), and the Center for Curriculum Analysis (CCA) is funded by the Bill & Melinda Gates Foundation and housed in LUC Office of the Provost. The goal of this partnership is to create a three-tiered system of professional learning (PL) to build a sustainable network of PL facilitators within CPS. The partnership will enhance the capacity of the PL facilitators in CPS by deepening their understanding of the Amplify Science curriculum, supporting reflective instructional practices, and developing a coherent PL approach that attends to equity. This project will develop a collaborative exportable professional learning structure. Project activities include intensive support of five geographically distributed "model schools" serving as laboratories/showcases of high-quality implementation of Amplify

Notice the words: metric, measurable, goals. While Gates' vaccine-based giving—closing in on $6 billion to fight measles, hepatitis B, rotavirus and AIDS, among others—is part of the largest, most human-driven philanthropy in the history of mankind, what's missing in his language are the individual humans.

In many ways that's the point. Gates' clipped manner in discussing the children he and his wife met in India and Africa ("Melinda and I spend time with these kids, and we see that they're suffering; they're dying") disappears when the underlying numbers come up, his speech getting more rapid, his voice ever higher. "A 23-cent vaccine," he says, "and you'll never get measles," a disease that "at its peak was killing about a million and a half a year; it's down below 300,000." Gates rattles off milestones in the history of global health and the prices of vaccines down to the penny, but blanks on the name of one of his favorite vaccine heroes, John Enders, the late Nobel laureate, or Joe Cohen, a key inventor of the new malaria vaccine Gates helped bankroll.

It's heady, historic stuff: America's richest man—he'd be the world's richest had he not already given away so much money—still in his prime (he just turned 56), with the reputation, resources and determination to stamp out infectious disease. "I'd be deeply disappointed," says Gates, if in the next 25 years he can't

checkbook: Previous attempts had faltered due to lack of funds and infighting among aid organizations over scarce dollars. But the private component was trickier. Compared with manufacturing pills, making vaccines is difficult and expensive. Drug companies wanted to immunize kids in, say, Afghanistan, but couldn't count on demand that would be large and predictable enough to cover their costs. They faced the unappetizing choice of being humane or profitable.

So back in 1999 Gates traveled to Bellagio, Italy to hammer out a solution, along with Unicef, the World Bank, the UN, various pharmas and aid groups. The result was the Global Alliance for Vaccines & Immunisation, now called the GAVI Alliance, which Gates ultimately backed with a $2.5 billion pledge and personal will, exhibiting the tough-guy tactics, when necessary, that earned Microsoft the fear of its rivals and enmity of U.S. antitrust regulators. "Bill was a little like a poker player who put a lot of chips on the table and scared everyone else off," says Seth Berkley, who ran a Gates-funded AIDs vaccine effort and is now GAVI's chief executive.

Next: Cutting The Price Of Vaccines

GAVI set out to do things differently in two ways. First, buy-in: It forced developing countries to cofinance vaccination

KU LEUVEN

REGA INSTITUTE KU LEUVEN

het Belgisch Staatsblad - 24/12/2020 - Annexes du Moniteur belge

Naam
(voluit) : **Rega Instituut**
(verkort) :

Rechtsvorm : **vzw**

Volledig adres v.d. zetel : **Herestraat 49 bus 1030, 3000 Leuven**

Onderwerp akte : Herbenoeming bestuurders - ontslag - benoeming

Hierbij geef ik graag de volgende functiewissel door :

Debackere Koen, wonende in de Alfons Stesselstraat 8 te 3012 Leuven, geboren te Gent op 14 juli 1961 zetelt niet langer in de Raad van Bestuur Rega vzw in zijn hoedanigheid van algemeen beheerder van de Katholieke Universiteit te Leuven).
Hij blijft echter zetelen als lid KULeuven

De nieuwe algemeen beheerder van de Katholieke Universiteit Leuven is Wim Desmet, wonende in Oude Nethensebaan 26, 3051 Oud-Heverlee, geboren te Waregem op 5 juni 1969 en zetelt in die hoedanigheid in de Raad van Bestuur Rega vzw vanaf 1 november 2020.

Ingevolge het bereiken van de statutair voorziene maximumleeftijd aanvaardt de Algemene Vergadering het ontslag als lid van de Raad van Bestuur van Jozef Van Damme, Merelput 35 to 9080 Lochristi, geboren te Gent op 13 juli 1950.

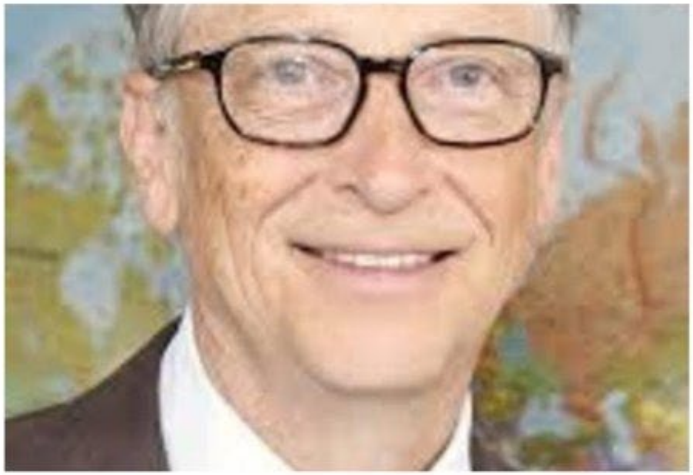
- Debackere Koen [redacted] juli 1961 (in zijn hoedanigheid van algemeen beheerder van de Katholieke Universiteit te Leuven)
- Herdewijn Piet, [redacted] september 1954
- Neyts Johan, [redacted] op 21 januari 1966
- Opdenakker Ghislain, [redacted] te Dilsen op 23 juni 1956
- Proost Paul, wonen[redacted]
- Schols Dominique, [redacted]
- Van Damme Jozef, [redacted]
- Van Ranst Marc, [redacted]65
- Van Hulle Cynthia, [redacted]

Johan Neyts

Johan Neyts is hoogleraar aan de KU Leuven, waar hij het vak virologie doceert aan de studenten geneeskunde en tandheelkunde. Neyts groeide op in Blankenberge, België. Hij liep school aan het Blankenbergse Sint-Pieterscollege in de richting wetenschappen-wiskunde. Wikipedia

Bill Gates bestelt grote coronastudie in Rega-instituut

04 maart 2020 door Belga en P.S.



THE BILL & MELINDA GATES FOUNDATION INVESTS $52M IN CUREVAC FOR VACCINE DEVELOPMENT

The Bill & Melinda Gates Foundation Invests $52M in CureVac for Vaccine Development, *March 6, 2015. GEN Magazine.*

Wie maakt deel uit van het Federaal Platform COVID Testing?

We hebben overeenkomsten gesloten met 8 samenwerkende partners. Elke partner bestaat uit een universitair centrum en een erkend laboratorium voor klinische biologie:

- Universiteit Antwerpen en UZ Antwerpen
- Universiteit Gent en UZ Gent
- KU Leuven en UZ Leuven
- UCL en Hôpital Saint-Luc Bruxelles
- ULB en Institut de Biologie clinique
- Université de Liège en CHU de Liège
- Université de Namur en CHU-UCL Namur
- Université de Mons en Hôpital de Jolimont

Wat financieren we?

We financieren het platform op 3 niveaus:

- We voorzien een eenmalige opstartkost van maximum 275.000 EUR per site.
- We vergoeden de werkingskosten die noodzakelijk zijn om dagelijks 2.000 testen te kunnen uitvoeren. Dat stemt overeen met een maandelijks bedrag van 720.000 EUR per site.

Home › Studeren › Permanente Vorming › UDL › Frank Vandenbroucke (Min. van Staat, Prof. KU Leuven)

FRANK VANDENBROUCKE (MIN. VAN STAAT, PROF. KU LEUVEN)

CV en professionele activiteiten Frank Vandenbroucke

Re: Bill Gates calls on U.S. to lead fight against a pandemic that could kill 33 million - The Washington Post

Subject: Re: Bill Gates calls on U.S. to lead fight against a pandemic that could kill 33 million - The Washington Post

From: Rita Colwell <RCOLWELL@umd.edu>

To: Lori Michelin <lorimichelin80@gmail.com>

Cc: Peter Daszak <daszak@ecohealthalliance.org>, mdbacker@its.jnj.com, ann moore <annbeckermoore@gmail.com>, dramy@citypetsvets.com, Carlota Vollhardt <carlota.vollhardt@e-k-i.com>, Board <board@ecohealthalliance.org>, Anthony Ramos <ramos@ecohealthalliance.org>

Sent: April 29, 2018 11:11:41 AM EDT

MARIANNE DE BACKER

Executive VP, Head of Strategy, Business Development & Licensing and Executive Committee Member at Bayer AG, Pharmaceuticals

Re: Bill Gates calls on U.S. to lead fight against a pandemic that could kill 33 million - The Washington Post

Apr 29, 2018 11:11:41 AM EDT

Peter:
Send the slides!
Rita

Sent from my iPhone

On Apr 29, 2018, at 8:55 AM, Lori Michelin <lorimichelin80@gmail.com> wrote:

> Cool, glad we are connected and have received funding in the past!
>
> On Sun, Apr 29, 2018 at 2:59 AM, Peter Daszak <daszak@ecohealthalliance.org> wrote:
> Re gates and google - we have good connections at both orgs and I've received funding in the past from google for mapping and wildlife surveillance in Bangladesh.
>
> We'll definitely be reaching out to them again, but gates have a very formal system for proposals based around the grand challenges that are v specific. This one is strictly on vaccine design so it's outside our wheelhouse right now.
>
> The bigger message is that ever since the Ebola outbreak gates are now getting more into pandemic preparedness rather than the neglected tropical disease focus that they've stuck to for the last decade+. This means we can now start to talk to contacts there and get ready for when they release a grand challenge that's more in line with what we do.
>
> Cheers,
>
> Peter
>
> Peter Daszak
> (Sent from my iPhone)

On Apr 28, 2018, at 4:58 PM, Rita Colwell <rcolwell@umiacs.umd.edu> wrote:

> I'm on a panel on biothreats…National Press Club, Washington, DC, Monday afternoon April 30…along with a roster of DoD, CIA, DHS, and other assorted luminaries.
>
> Anything I should say or comment on regarding EcoHealth, Peter?
>
> Rita
>
> ---
>
> **From:** De Backer, Marianne [RNDUS] [mailto:MDBACKER@its.jnj.com]
> **Sent:** Saturday, April 28, 2018 7:55 PM
> **To:** ann moore
> **Cc:** Dr. Amy Attas; Carlota Vollhardt; Peter Daszak; board@ecohealthalliance.org; Anthony Ramos
> **Subject:** Re: Bill Gates calls on U.S. to lead fight against a pandemic that could kill 33 million - The Washington Post
>
> Indeed! Any connections with Bill Gates we could [re-]activate given this perfect alignment in mission?
>
> Sent from my iPhone

coordinate this?

FC

From: Trevor Mundel [redacted]>
Sent: Wednesday, February 5, 2020 10:55 PM
To: Collins, Francis (NIH/OD) [E] [redacted]
Cc: Eiss, Robert [NIH/FIC) [E] [redacted]; Glass, Roger (NIH/FIC) [E] <[redacted];
Kedest Tesfagiorgis <[redacted]>
Subject: Re: Follow up on Addis Meeting

That would be great Francis. You might have seen our announcement this morning on the Coronavirus reponse funding and $60M of the 100 is for R&D especially therapeutics rather than vaccines so we might want a quick call in the next few days to think about how we coordinate this - I've been in touch with Jeremy as well. Trevor

Trevor Mundel, MD, PhD
President, Global Health Program
V [redacted]
F +1.206.494.7041
E [redacted]

[redacted]
Executive Assistant
Office of the President, Global Health

V [redacted]
M [redacted]
E [redacted]
Bill & Melinda Gates Foundation
www.gatesfoundation.org

Trevor Mundel

President, Global Health

Connect

From: Fauci, Anthony (NIH/NIAID) [E]
Sent: Fri, 28 Feb 2020 00:47:19 +0000
To: Mark Zuckerberg
Subject: RE:

Mark:

Thanks for the note. If we start in April (~6-7 weeks from now) with a phase 1 trial of 45 subjects, it will take another 3-4 months to determine safety and some immunogenicity. The next step is phase 2 for efficacy. We may need help with resources for the phase 2 trial if we do not get our requested budget supplement. I believe that we will be OK. If this goes off track, I will contact you. Many thanks for the offer. Much appreciated.

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)

From: Mark Zuckerberg (b) (6)
Sent: Thursday, February 27, 2020 7:16 PM
To: Fauci, Anthony (NIH/NIAID) [E] (b) (6)>
Subject:

Tony:

I was glad to hear your statement that the covid-19 vaccine will be ready for human trials in six weeks. Are there any resources our foundation can help provide to potentially accelerate this or at least make sure it stays on track?

Mark

facebook

Sep 21, 2016, 02:46pm EDT

Chan Zuckerberg Initiative Promises To Spend $3 Billion To Research And Cure All Diseases

Kathleen Chaykowski Forbes Staff
Billionaires

Follow

This article is more than 5 years old.

accept liability for any statements made that are the sender's own and not expressly made on behalf of the NIAID by one of its representatives.

From: Fauci, Anthony (NIH/NIAID) [E]
Sent: Wednesday, February 5, 2020 5:25 PM
To: Jeremy Farrar <(b) (6)>; Collins, Francis (NIH/OD) [E] (b) (6)
Cc: Josie Golding <(b) (6)>; Tabak, Lawrence (NIH/OD) [E]
(b) (6)
Subject: RE: Prevalence of infection and stage of the epidemic in Wuhan

Jeremy:

Thanks for the note. Looks like things are moving along with WHO. I will list below a number of names for potential members of the working group to examine the evolutionary origin of the 2019-nCoV in addition to the individuals who were on the call with us last Saturday:

Harold Varmus – Weill Cornell Medical Center – New York City
Feng Zhang – MIT (CRISPR expert)
Joseph DeRisi - Chan Zuckerberg (CZ) BioHub (he's paying close attention to the Wuhan strain vs other bat viruses and the SARS virus)

BACK TO ALL

JOE DERISI, PH.D.

Co-President

DeRisi is infusing biomedical research with an inventor's flair. He led the development of a new diagnostic tool called the Virochip. Containing DNA from every known virus, the Virochip can quickly scan blood or spinal fluid for evidence of infection. A self-described "biologist who is also a serious computer nerd," his lab at the University of California, San Francisco, is combining an innovative software tool with new genome sequencing technology to develop a prototype diagnostic test that could reveal any infectious disease with near certainty.

Website

CZ BIOHUB

ABOUT US OUR WORK PEOPLE RESOURCES

Empowering scientists to work on the riskiest, most exciting ideas.

The Chan Zuckerberg Biohub is an independent, nonprofit research center that is working to cure, prevent, or manage all disease by the end of the century.

Our Leadership

> We have a moral responsibility to build a better world for all children in the next generation. We want you to grow up in a world better than ours today.

The Atlantic

Susan Walsh / AP

OCTOBER 23, 2019

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"Are you 100 percent confident that vaccines pose no injury to any person on this planet?"

google

A MESSAGE FROM OUR CEO

How we're helping get vaccines to more people

Jan 25, 2021 · 3 mins read

Sundar Pichai
CEO of Google and Alphabet

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YouTube gaat optreden tegen alle anti-vaccinatiecontent

Vandaag, 15:50 · Buitenland

Deel dit artikel

Google's parent firm invests in UK company developing first ever universal flu vaccine

Vaccitech, founded by scientists at Oxford University, is also running clinical studies on the prevention of Mers and a therapeutic prostate cancer vaccine

Ben Hirschler | Monday 15 January 2018 11:12 | comments

Janssen

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

From: Stoffels, Paul [JJCUS] (b) (6)>
Sent: Thursday, February 13, 2020 9:42 AM
To: Fauci, Anthony (NIH/NIAID) [E] <(b) (6)>
Cc: Riccobene, Kim [JJCUS] (b) (6); Van Hoof, Johan [JRDBE] (b) (6)>
Subject: COVID-19 vaccine development

Dear Tony,

Four weeks ago our team kicked of the experimental work on the development of a COVID-19 - vaccine.

(b) (4)

OUR LEADERSHIP TEAM

Paul Stoffels, M.D.

Vice Chairman of the Executive Committee and Chief Scientific Officer

Paul Stoffels is a visionary leader who inspires and drives transformational innovation to bring years of life and quality of life to millions of people around the world.

Paul spearheads the Johnson & Johnson research and product pipeline by leading teams across all our sectors to set the companywide innovation agenda, discovering and developing transformational

Family of Companies' global public health strategy to make innovative medicines and technologies accessible in the world's most vulnerable communities and

Locations

Netherlands

PRA Health Sciences
Groningen, Netherlands, NZ 9728

Sponsors and Collaborators

Janssen Vaccines & Prevention B.V.

Investigators

Study Director: Janssen Vaccines & Prevention B.V. Clinical Trial Janssen Vaccines & Prevention B.V.

More Information

Responsible Party:	Janssen Vaccines & Prevention B.V.
ClinicalTrials.gov Identifier:	NCT04894305 History of Changes
Other Study ID Numbers:	CR109013 2021-001374-30 (EudraCT Number) VAC31518COV1003 (Other Identifier: Janssen Vaccines & Prevention B.V.)
First Posted:	May 20, 2021 Key Record Dates

Box 1: Academic and industrial interest in mRNA

Recently, several universities have opened RNA centres to advance therapeutic applications of RNA, including *in vitro* transcribed (IVT) mRNA. These centres include the RNA Therapeutic Institute at the University of Massachusetts, USA, the Yale Center for RNA Science and Medicine, USA, and the RNA Institute at the University at Albany, State University of New York, USA. The preclinical and clinical development of mRNA-based therapeutics has also been accelerated at university spin-off companies (for example, Argos Therapeutics, BioNTech, CureVac, eTheRNA, Ethris, Factor Bioscience, Moderna and Onkaido), which are supported by considerable venture capital inflows.

Major pharmaceutical companies such as Novartis, Sanofi Pasteur, AstraZeneca, Alexion and Shire have entered into the development of mRNA-based products. IVT mRNA technologies are being in-licensed (for example, the US$240 million deal between AstraZeneca and Moderna in 2013, the Sanofi Pasteur deal with Curevac in 2014, the Shire collaboration with Ethris in 2013, and the $100 million upfront deal between Moderna and Alexion in 2014; see the FierceBiotech website for further information). In October 2013, the 1st International mRNA Health Conference was held in the historic town of TÜbingen, Germany, where nucleic acid was discovered 140 years ago[207].

DARPA Awards Moderna Therapeutics a Grant for up to $25 Million to Develop Messenger RNA Therapeutics™

October 2, 2013 at 9:00 AM EDT

PDF Version

Research to focus on antibody production for immune defense

CAMBRIDGE, Mass., October 2, 2013—Moderna Therapeutics, the company pioneering messenger RNA therapeutics™, a revolutionary new treatment modality to enable the *in vivo* production of therapeutic proteins, announced today that the Defense Advanced Research Projects Agency (DARPA) has awarded the company up to $25 million to research and develop its messenger RNA therapeutics™ platform as a rapid and reliable way to make antibody-producing drugs to protect against a wide range of known and unknown emerging infectious diseases and engineered biological threats.

Messenger RNA therapeutics™ can be designed to tap directly into the body's natural processes to produce antibodies without exposing people to a

DARPA Hires Pfizer to Perform Groundbreaking Vaccine Research

For $7.7 million, DARPA wants Pfizer to rewrite the rules by which vaccines are created and diseases treated.

Rich Smith (TMFDitty)
Dec 5, 2013 at 9:32AM
Author Bio

The Department of Defense announced eight defense contracts on Wednesday. Worth $198.4 million in total, the contracts ranged in value by a factor of 10 -- from as much as $80 million to as little as $7.7 million. Yet it was that very smallest of the eight contracts awarded yesterday that was the most interesting.

The Defense Advanced Research Projects Agency (DARPA) awarded **Pfizer** (NYSE:PFE) a $7.7 million contract to research whether it might be possible to "identify and subsequently induce the production of protective antibodies to an emerging pathogen directly in an infected or exposed individual."

The traditional method of "curing" a disease -- from which DARPA is deviating -- involves extracting a pathogen, isolating its antigen, and using that antigen to create a vaccine *in vitro*. This vaccine is then injected into a patient to stimulate his or her immune system to fight off subsequent exposures to the pathogen. DARPA, however, appears to be tasking Pfizer with finding a shortcut, whereby all of this would happen *in vivo*, within the patient's body, thus dramatically cutting the time between the discovery of a pathogen and the military's ability to treat it. Incidentally, if Pfizer is successful in this work, its research could have significant applications in the civilian world as well.

Pfizer's DARPA contract will run through Dec. 8, 2016.

Pfizer

Bill Gates recently stated that he views **Pfizer** (NYSE:PFE) as the leader in the coronavirus vaccine race. In a CNBC interview, he said, "The only vaccine that, if everything went perfectly, might seek the emergency use license by the end of October, would be Pfizer."

The Gates Foundation also owns shares of the big drugmaker. However, this investment wasn't initiated because of Pfizer's coronavirus program. Actually, the foundation first bought a stake in Pfizer back in 2002 with the stated intention of "expand[ing] access to the pharmaceutical company's all-in-one injectable contraceptive, Sayana Press, giving women in the developing world an affordable option."

Gates is probably correct in assessing Pfizer as the coronavirus vaccine leader. The company expects to report initial results next month from a late-stage study of BNT162b2, the COVID-19 vaccine candidate that it's developing with **BioNTech** (NASDAQ:BNTX). If all goes well, BNT162b2 could very well become the first coronavirus vaccine available to Americans.

BioNTech

It's not surprising that the Bill & Melinda Gates Foundation also owns shares of BioNTech. Again, though, the nonprofit foundation didn't invest in the German biotech stock because of its coronavirus program.

The Gates Foundation first bought a position in BioNTech in September 2019, well before the COVID-19 pandemic hit. It invested $55 million in the biotech, with the potential for total funding to reach $100 million. The foundation's goal with this investment was to work with BioNTech to develop vaccines and immunotherapies for preventing HIV and tuberculosis (TB) infection.

BioNTech began developing its BNT162 COVID-19 vaccine program earlier this year. It had already made significant progress with this program when it announced a partnership with Pfizer in March.

CureVac

BioNTech wasn't the first German biotech to attract the attention of the Gates Foundation. In 2015, the

BioNTech Signs Collaboration Agreement with Pfizer to Develop mRNA-based Vaccines for Prevention of Influenza

BioNTech will receive $120 million in upfront, equity and near-term research payments from Pfizer and will be eligible to receive up to $305 million in potential development, regulatory and commercial milestone payments and up to double-digit royalties

Partnership brings together Pfizer's leadership in vaccines with BioNTech's expertise in mRNA technology

August 16, 2018 01:00 AM Eastern Daylight Time

MAINZ, Germany & NEW YORK--(BUSINESS WIRE)--BioNTech AG, a rapidly growing biotechnology company focused on precise immunotherapies for the treatment of cancer and infectious disease, today announced that it has entered into a multi-year research and development (R&D) collaboration with Pfizer Inc. (NYSE: PFE) to develop mRNA-based vaccines for prevention of influenza (flu).

"Forward-Looking Information and Factors That May Affect Future Results"

Tweet this

Under the terms of the agreement, BioNTech and Pfizer will jointly conduct research and development activities to help advance mRNA-based flu vaccines. Pfizer will assume sole responsibility for further clinical development and commercialization of mRNA-based flu vaccines, following BioNTech's completion of a first in human clinical study.

BioNTech will receive $120 million in upfront, equity and near-term research payments and up to an additional $305 million in potential development, regulatory and commercial milestone payments. In addition, BioNTech will receive up to double-digit tiered royalty

At a glance

Developer	BioNTech; Pfizer
Class	Influenza virus vaccines; RNA vaccines
Mechanism of Action	Immunostimulants
Orphan Drug Status	No
New Molecular Entity	No

Highest Development Phases

Preclinical	Influenza virus infections

Most Recent Events

31 Mar 2020	BioNech plans a phase I trial for Influenza virus infections (Prevention) in first half of 2021 (parenteral)
07 Nov 2019	Preclinical trials in Influenza virus infections (Prevention) in Germany (Parenteral) (BioNTech pipeline, November 2019)
23 Aug 2018	BioNTech collaborates with Pfizer to develop mRNA-based vaccines for Influenza (Prevention)

We plan to initiate FIH[4] trials for our preclinical product candidates across all platforms

Drug class Oncology	Platform	Product Candidate	Indication (Targets)	Rights Collaborator	Milestones
mRNA	**FixVac**	BNT116	NSCLC	fully-owned	
	RiboMabs (mRNA-encoded antibodies)	BNT141	multiple solid tumors	fully-owned	Phase 1 start in 1H 2021
		BNT142	multiple solid tumors *(CD3+CLDN6)*	fully-owned	Phase 1 start in 1H 2021
	RiboCytokines (mRNA-encoded Cytokines)	BNT151	multiple solid tumors *(optimized IL-2)*	fully-owned	Phase 1 start in1H 2021
		BNT152+ BNT153	multiple solid tumors *(IL-7, IL-2)*	fully-owned	Phase 1 start in 1H 2021
Engineered Cell Therapies	**CAR-T Cells**	BNT211	multiple solid tumors *(CLDN6)*	fully-owned	Phase 1/2 start in 2H 2020
		BNT212	pancreatic, other cancers *(CLDN18.2)*	fully-owned	
	TCRs	undisclosed	Solid tumors	Eli Lilly	
		to be selected	all tumors	fully-owned	
SMIM[1]	**Toll-Like Receptor Binding**	BNT411	solid tumors *(TLR7)*	fully-owned	Phase 1 start in 2H 2020

mRNA	**Infectious Disease Immunotherapies**	BNT161	Influenza	Pfizer	Start first study in H1 2021
		undisclosed	up to 10 indications	Penn[2]	First phase 1 trial to start 1H 2021
		undisclosed	HIV and tuberculosis	Bill & Melinda Gates Foundation	
	Rare Disease PRT[3]	BNT171	Not disclosed	Genevant (global 50:50 profit/loss)	First phase 1 trial to start in 1H 2021
		undisclosed	4 additional rare disease indications		

The Netherlands Cancer Institute

Collaboration and License Agreements

Through our acquisition of Neon, BioNTech US became a party to certain license and collaboration agreements with the Netherlands Cancer Institute, or NKI, that grant it certain license and/or assignment rights to intellectual property, including to intellectual property within the T Cell Induction/Expansion Filings.

Manufacturing Agreement

Through our acquisition of Neon, BioNTech US also became a party to a manufacturing agreement, or the NKI Manufacturing Agreement with NKI, whereby NKI performs manufacturing, analytical testing and quality assurance services related to the manufacture of BioNTech US's autologous T cell therapy drug product NEO-PTC-01 (now BNT221) for use in preclinical and clinical activities. The NKI Manufacturing Agreement has a three-year term, which can be extended for an additional six months at BioNTech US's sole discretion, and can be terminated by BioNTech US for convenience with three-months' notice. All amounts incurred under the NKI Manufacturing Agreement are recognized as research and development expense as incurred.

Changes in Our Share Capital During the Last Three Fiscal Years

Our share capital as registered with the commercial register (*Handelsregister*) amounts to 238,197,961. Since January 1, 2017, (up until and including the capital increase of August 16, 2019, without giving effect to the 18-to-1 stock split which became effective on September 18, 2019), our share capital has changed as follows:

- On September 14, 2017, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 9,083,000 shares;
- On February 1, 2018, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 1,254,884 shares;
- On September 12, 2018, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 32,373 shares;

- On October 18, 2018, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 186,715 shares;
- On January 29, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 282,678 shares;
- On April 24, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 131,933 shares against contributions in kind (swap of shares in our company against shares in one of our subsidiary companies);

- On January 29, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 282,678 shares;
- On April 24, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 131,933 shares against contributions in kind (swap of shares in our company against shares in one of our subsidiary companies);
- On June 26, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 666,123 shares;
- On August 16, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 333,310 shares;
- On September 18, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 206,595,492 shares by way of a capital increase from our funds; thus, no contribution by investors was made;
- On September 26, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 3,038,674 shares;
- On October 14, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 10,000,000 shares;
- On November 6, 2019, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 517,408 shares;
- On April 23, 2020, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 1,580,777 shares;
- On May 5, 2020, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 2,377,446 shares; and
- On May 8, 2020, our share capital as registered with the commercial register (*Handelsregister*) was increased by issuing 1,935,488 shares.

Click on one of our previously organised events to go to the event website:

STAKEHOLDER ROUND TABLE

How to join forces in influenza pandemic preparedness?

at the occasion of the Centenary of the 1918 Pandemic

Linfa Wang
Duke-NUS Medical School, Singapore

George Gao
China CDC

William B. Karesh
EcoHealth Alliance

Albert Osterhaus
RIZ Hannover, Germany, Co-founder One Health Platform Foundation

John Mackenzie
Curtin University, Australia, Co-founder One Health Platform Foundation, Co-chair 6th

Rebecca Katz
Georgetown University, USA

Ron Fouchier
Erasmus MC Rotterdam, The Netherlands

Thomas V. Inglesby
Johns Hopkins SPH Center for Health Security, USA

From: George GAO [redacted] (b) (6)
Sent: Tuesday, March 3, 2020 7:12 AM
To: Fauci, Anthony (NIH/NIAID) [E] [redacted] (b) (6)>
Subject: Vaccine—confidential PPT

Dear Tony
Hope this email finds you well and the US will soon get the COVID-19 down.

[redacted] (b) (4)

All the best
George

发自我的iPhone
<20200303 For Gao laoshi.pptx>

Tedros

CHINA AFRICA RESEARCH INITIATIVE

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Policy Brief 58 and Working Paper 49 – *A Comparative Analysis: Chinese and Indian Exim Bank Finance in Ethiopia*

June 21, 2021

Zhengli Huang and **Pritish Behuria** examine projects financed by Indian and Chinese Exim Banks to analyze how the development financing of two 'emerging' donors – India and China – has evolved in Ethiopia. In India and China, Exim Banks work both as export credit agencies and other traditional development finance organizations, thereby blurring the boundary between development assistance and economic cooperation.

The authors selected Ethiopia as it is a strategic partner for both countries, and existing literature has shown that the Ethiopian government is an outlier on the continent in employing its diplomatic relations to support strategic developmental goals.

POLICY BRIEF # 58

WORKING PAPER # 49

Where: What one highway project in Cameroon can tell us about the complexities of Chinese lending in Africa

July 6, 2021

This post is by CARI Director Deborah Brautigam and former CARI Research Assistant Alex Hardin. Alex is now an M&E Associate at Winrock International.

***Note**: At the time of publication, the Cameroonian government website where the authors sourced a large portion of the data necessary for this analysis (http://dad.minepat.gov.cm/) has ceased to be accessible online. We hope that it will become accessible again soon.*

Narratives of China's lending to Africa are

The One Health Platform strives to achieve gender equality in all internal committees, congress committees, events and projects."

Website	http://onehealthplatform.com
Bedrijfstakken	Openbare veiligheid
Bedrijfsgrootte	1-10 medewerkers
Hoofdkantoor	Berlare, Flemish Region
Type	Particuliere onderneming

Locaties

Primair

Overheet 48
Berlare, Flemish Region 9290, BE
Routebeschrijving

Medewerkers van One Health Platform

Tamika Sims, PhD