COV-19 WE C U SWISSY

As more drastic measures are put in place around the world slow down the spread, scientists are attempting to find a treatment.

About 35 companies and academic institutions are racing to create a vaccine, and at least four already have candidates they have been testing in animals.

The first of these – produced by Boston-based biotech firm Moderna – will enter human trials imminently.

https://www.statnews.com/2016/09/13/moderna-therapeutics-biotech-mrna/

SPECIAL REPORT

Ego, ambition, and turmoil: Inside one of biotech's most secretive startups

By DAMIAN GARDE @damiangarde / SEPTEMBER 13, 2016

Stéphane Bancel spent most of his career in sales and operations before becoming CEO of biotech startup Moderna Therapeutics.

ARAM BOGHOSIAN FOR STAT

CAMBRIDGE, Mass. — At first glance, Moderna Therapeutics looks like the most enviable biotech startup in the world. It has smashed fundraising records and teamed up with pharmaceutical giants as it pursues a radical plan to revolutionize medicine by transforming human cells into drug factories.

But the reality is more complicated.

A STAT investigation found that the company's caustic work environment has for years driven away top talent and that behind its obsession with secrecy, there are signs Moderna has run into roadblocks with its most ambitious projects.

https://www.businessinsider.com/biotech-moderna-prices-initial-public-offering-2018-12?op=1&r=US&IR=T
https://archive.is/wip/UDuXr

One of the highest-valued private companies in biotech is finally

BUSINESS INSIDER

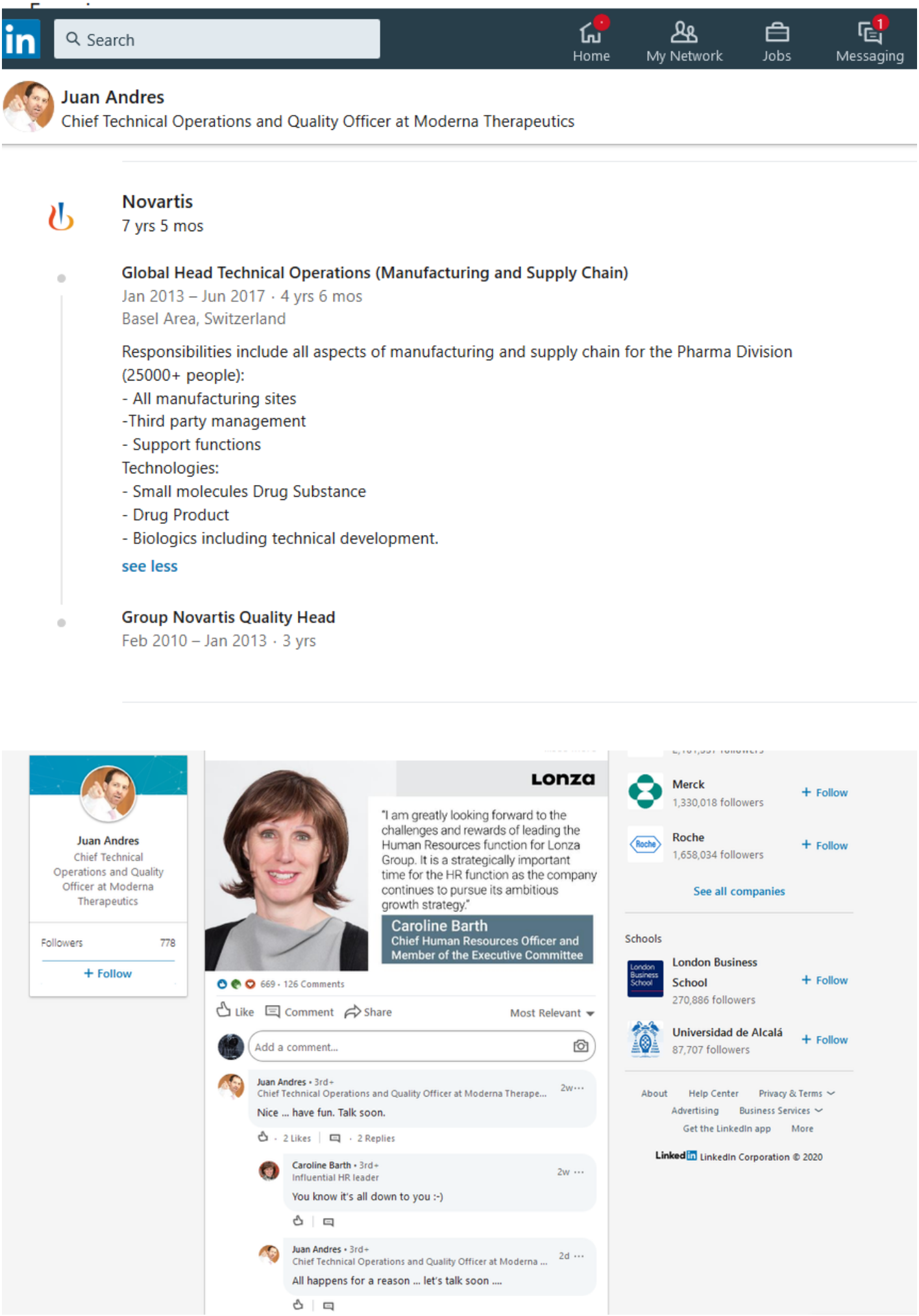
Moderna Therapeutics is expected to start trading Friday, after pricing Thursday at $23 a share. The company is selling roughly 27 million shares, valuing the company at about $7.5 billion. In total, the company is raising $620 million in the offering, making it the biggest initial public offering in biotech history.

Moderna is developing medical treatments based on messenger RNA, and the company is still in the early days of human trials for its treatments, which include cancer treatments as well as a vaccine for cytomegalovirus, or CMV.

In early November, Moderna filed with the US Securities and Exchange Commission to go public, and it will trade under the ticker MRNA.

https://www.investors.com/news/technology/moderna-ipo-biotech/
https://archive.is/wip/CiNCW

https://www.linkedin.com/in/juan-andres-65129b12/
https://archive.is/akBwb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Juan Andres
Chief Technical Operations and Quality Officer at Moderna Therapeutics
Novartis
7 yrs 5 mos
Global Head Technical Operations (Manufacturing and Supply Chain)
Jan 2013 – Jun 2017 · 4 yrs 6 mos
Basel Area, Switzerland
Responsibilities include all aspects of manufacturing and supply chain for the Pharma Division (25000+ people):
- All manufacturing sites
-Third party management
- Support functions
Technologies:
- Small molecules Drug Substance
- Drug Product
- Biologics including technical development.
see less
Group Novartis Quality Head
Feb 2010 – Jan 2013 · 3 yrs
Juan Andres
Chief Technical Operations and Quality Officer at Moderna Therapeutics
Followers 778
+ Follow
Lonza
"I am greatly looking forward to the challenges and rewards of leading the Human Resources function for Lonza Group. It is a strategically important time for the HR function as the company continues to pursue its ambitious growth strategy."
Caroline Barth
Chief Human Resources Officer and Member of the Executive Committee
669 · 126 Comments
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Most Relevant
Add a comment...
Juan Andres • 3rd+
Chief Technical Operations and Quality Officer at Moderna Therape...
2w
Nice ... have fun. Talk soon.
2 Likes
2 Replies
Caroline Barth • 3rd+
Influential HR leader
2w
You know it's all down to you :-)
Juan Andres • 3rd+
Chief Technical Operations and Quality Officer at Moderna ...
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All happens for a reason ... let's talk soon ....
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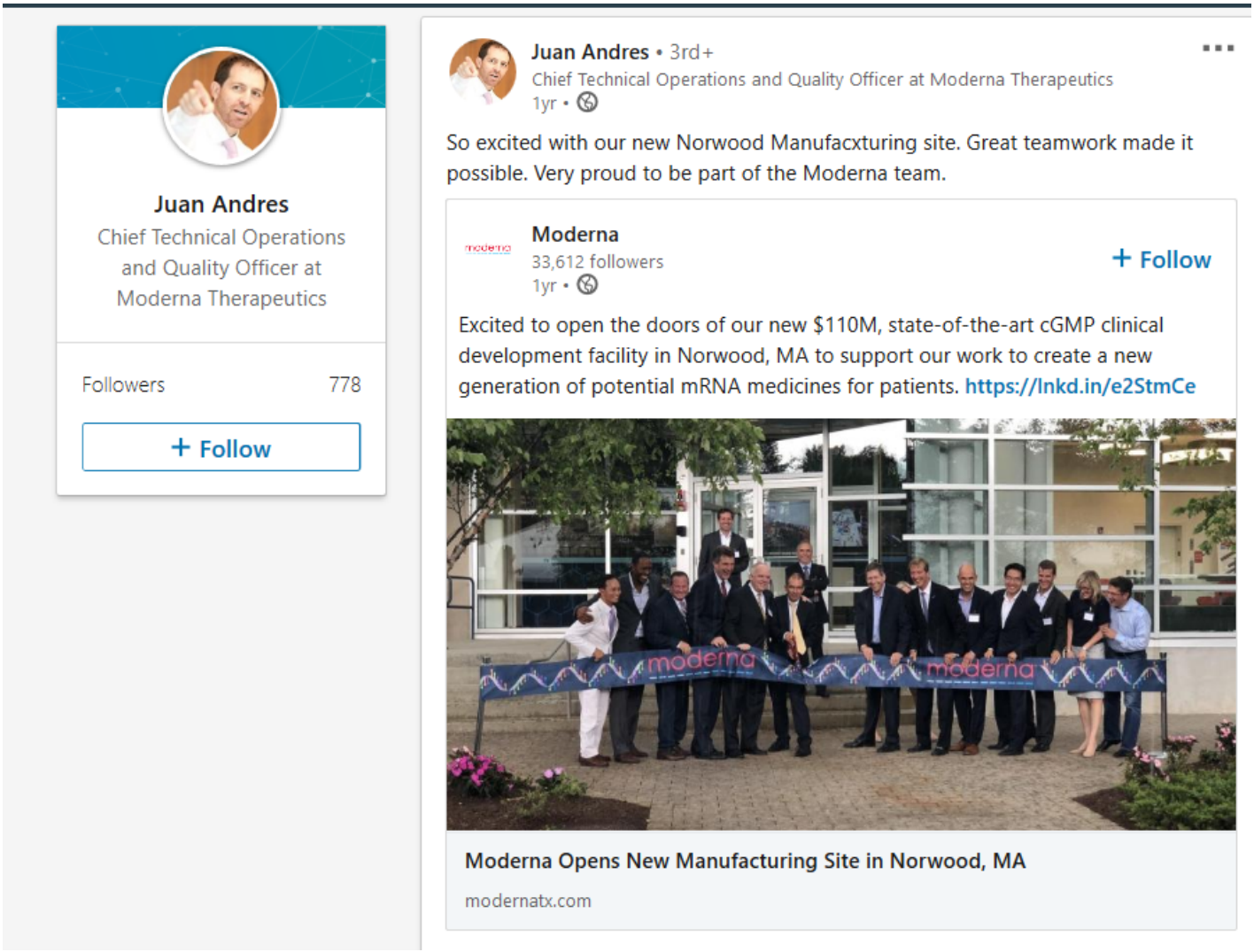

Controversial Startup Moderna Just Filed for the Biggest Biotech IPO Ever

https://www.bloomberg.com/news/articles/2018-12-12/a-harvard-professor-made-400-million-in-moderna-s-biotech-ipo
https://archive.is/Wi4l8

Moderna's Biotech IPO

Timothy Springer invested $5 million in the startup's early days. His windfall is one in a series of savvy investments.

By Rebecca Spalding
December 12, 2018, 4:50 PM UTC

Timothy Springer smiles during an interview in Boston, on Dec. 6. *Photographer: Scott Eisen/Bloomberg*

LISTEN TO ARTICLE
▶ 4:45

On the Sunday before Moderna Inc. launched one of the biggest initial public offerings in biotechnology history, one of its earliest investors was giving a lecture about rocks.

https://aws.amazon.com/solutions/case-studies/moderna-therapeutics/
https://archive.is/yCxQu

https://www.cnbc.com/2018/12/10/cramer-dont-judge-biotech-moderna-on-its-stocks-post-ipo-drop.html
https://archive.is/0USWQ

Don't judge early-stage biotech Moderna on its stock's post-IPO drop: Cramer

PUBLISHED MON, DEC 10 2018

INVESTORS SHOULDN'T DRAW CONCLUSIONS ABOUT BIOTECHNOLOGY COMPANY MODERNA SOLELY ON THE STOCK'S WORRISOME ACTION AFTER ITS INITIAL PUBLIC OFFERING, CNBC'S JIM CRAMER SAID MONDAY.

MODERNA IS IN THE EARLY STAGES OF CREATING MEDICINE USING MESSENGER RNA, WHICH TRANSPORTS GENETIC INFORMATION FROM DNA TO A BODY'S CELLS SO THEY CAN PRODUCE THE PROPER PROTEINS TO EXPRESS THOSE GENES. MODERNA'S IDEA IS TO ENGINEER MESSENGER RNA IN PATIENTS WITH GENETIC DISEASES TO TELL THEIR CELLS TO PRODUCE DIFFERENT, POTENTIALLY LIFE-CHANGING PROTEINS.

IN A STROKE OF UNFORTUNATE TIMING, THE COMPANY WENT PUBLIC ON FRIDAY DURING A BRUTAL DAY FOR THE MAJOR AVERAGES. MODERNA'S STOCK FELL NEARLY 20 PERCENT AS A RESULT OF THE WIDESPREAD WEAKNESS.

BUT IF INVESTORS VIEW THE STOCK "PURELY AS SPECULATION, MODERNA HAS A FEW MAJOR THINGS GOING FOR IT," CRAMER SAID. "IT'S RECESSION-PROOF AT A TIME WHEN MANY INVESTORS ARE NOW WORRIED ABOUT A SLOWDOWN. IT'S GOT AN EXCITING CONCEPT; YOU CAN ARGUE THAT MESSENGER-RNA-BASED MEDICINE COULD REVOLUTIONIZE HEALTH CARE. AND THE STOCK HAS PULLED BACK DRAMATICALLY IN THE SHORT TIME SINCE IT'S BEEN PUBLIC."

SO WHILE IT MIGHT NOT BE THE RIGHT PLAY FOR PEOPLE INVESTING FOR RETIREMENT, INVESTORS WITH SOME CASH TO SPARE MIGHT FIND MODERNA TO BE AN INTERESTING BET IF THEY BELIEVE IN THE STORY, THE "MAD MONEY" HOST SAID.

WHAT SETS MODERNA APART? WHILE OTHER COMPANIES INCLUDING IONIS PHARMACEUTICALS ARE WORKING ON SIMILAR TREATMENTS, MODERNA'S FOCUS ON DELIVERY AND MANUFACTURING TECHNOLOGIES PUTS IT IN A CLASS ABOVE ITS RIVALS, CRAMER ARGUED.

IN SHORT, MODERNA HAS DEVELOPED TECHNOLOGY THAT MAKES IT EASIER FOR ITS MESSENGER RNA TO REACH THE CORRECT PLACE IN A PATIENT'S BODY WITHOUT RUNNING INTO THE IMMUNE SYSTEM, WHICH CAN DEGRADE THE NEW RNA. MODERNA IS ALSO WORKING ON MANUFACTURING TECH THAT WILL ALLOW IT TO MASS-PRODUCE ITS TREATMENTS ONCE IT GETS FEDERAL APPROVAL, THOUGH THAT IS STILL YEARS AWAY.

THE COMPANY HAS STRUCK HIGH-PROFILE PARTNERSHIPS WITH BIOTECH GIANTS MERCK AND ASTRAZENECA, WHICH IS ALSO MODERNA'S FOURTH-LARGEST SHAREHOLDER. THOSE DEALS, WHICH MANIFEST THEMSELVES IN THE FORM OF "MILESTONE PAYMENTS" AS MODERNA'S DRUGS REACH VARIOUS THRESHOLDS OF SUCCESS, SPEAK TO THE LEGITIMACY OF THE COMPANY'S MISSION, CRAMER SAID.

"THE INDUSTRY CLEARLY BELIEVES THE TECHNOLOGY IS WORTH BETTING ON," HE SAID. "THESE COMPANIES UNDERSTAND THE POTENTIAL OF MESSENGER-RNA-BASED MEDICINE."

CRAMER ACKNOWLEDGED WHY INVESTORS MIGHT BE WARY OF BUYING SHARES IN MODERNA: THE COMPANY HAS NO EARNINGS OR SALES YET AND SPENDS FORTUNES ON ITS 21 DEVELOPMENT PROGRAMS, 10 OF WHICH ARE IN THE EARLY STAGES OF CLINICAL TRIALS.

BUT THE CORPORATE INVESTMENTS HAVE ALLOWED THE COMPANY TO MAINTAIN A CLEAN BALANCE SHEET, WHICH NOW BOASTS $1.8 BILLION IN CASH TO SPARE THANKS TO THE IPO, HE SAID.

“EARLY-STAGE BIOTECHS LIKE THIS ONE DON’T TRADE ON THE NUMBERS, THEY TRADE ON BELIEF,” THE “MAD MONEY” HOST EXPLAINED. “IN ABOUT A MONTH, MODERNA’S QUIET PERIOD ENDS, AND THE ANALYSTS WILL START ROLLING OUT THEIR COVERAGE. IF THEY TELL A BULLISH STORY, AND I THINK THEY PROBABLY WILL, THIS STOCK CAN RALLY.”

SO EVEN THOUGH MODERNA’S STOCK HAS LOST NEARLY $1.5 BILLION IN VALUE SINCE ITS IPO, INVESTORS WOULD BE BETTER OFF JUDGING THE BIOTECH ON WHETHER THEY THINK ITS TREATMENTS CAN SUCCEED THAN ON THE STOCK’S CIRCUMSTANTIAL ACTION, CRAMER SAID.

“THESE SPECULATIVE BIOTECHS ARE A LOT LIKE [THE YANKEES’] GIANCARLO STANTON — WHEN HE STEPS UP TO THE PLATE, HE’S LIKELY TO EITHER STRIKE OUT OR HIT A HOME RUN,” HE JOKED. “IF YOU’RE TRYING TO SAVE FOR RETIREMENT, MODERNA IS NOT THE STOCK FOR YOU. HOWEVER, IF YOU WANT TO TAKE A CHANCE WITH YOUR SPECULATIVE ‘MAD MONEY’ PORTFOLIO, YOU HAVE GOT MY BLESSING TO BUY THIS ONE. I KNOW IT CAN PROBABLY STILL GO LOWER, BUT YOU’RE GETTING A PRETTY DARN GOOD ENTRY POINT.”

WATCH: CRAMER INTRODUCES MODERNA, NEWEST BIOTECH SPEC

https://fortune.com/2018/11/09/moderna-ipo-mrna/
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https://www.barrons.com/articles/moderna-stock-propublica-chairman-paul-sagan-surge-vaccine-testing-fauci-51585757744

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29 Jan 2013

https://webcache.googleusercontent.com/search?q=cache:https://www.modernatx.com/pipeline
https://archive.is/jahR3

Moderna's mRNA-1273
Novel coronavirus (SARS-
CoV-2) vaccine *CEPI*
funded

Moderna Announces Funding Award from CEPI to Accelerate Development of Messenger RNA (mRNA) Vaccine Against Novel Coronavirus

January 23, 2020 at 9:15 AM EST

PDF Version

Collaboration includes the National Institutes of Health (NIH) and leverages flexibility of Moderna's mRNA vaccine technology

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Jan. 23, 2020-- Moderna, Inc., (Nasdaq: MRNA) a clinical stage biotechnology company pioneering messenger RNA (mRNA) therapeutics and vaccines to create a new generation of transformative medicines for patients, and the Coalition for Epidemic Preparedness Innovations (CEPI), today announced a new collaboration to develop an mRNA vaccine against the novel coronavirus (2019-nCoV).

https://investors.modernatx.com/news-releases/news-release-details/moderna-announces-funding-award-cepi-accelerate-development
https://archive.is/FpsDe

Moderna Announces Funding Award from CEPI to Accelerate Development of Messenger RNA (mRNA) Vaccine Against Novel Coronavirus

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PDF Version

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Under the terms of the agreement, Moderna will manufacture an mRNA vaccine against 2019-nCoV, which will be funded by CEPI. The Vaccine Research Center (VRC) of the National Institute of Allergy and Infectious Diseases (NIAID), part of NIH, collaborated with Moderna to design the vaccine. NIAID will conduct IND-enabling studies and a Phase 1 clinical study in the U.S.

Over the past four years Moderna has had six positive Phase 1 clinical readouts in its prophylactic vaccines modality and moved two additional programs into development. Moderna's technology platform, fully integrated manufacturing site and development experience, combined with a multi-year relationship with the NIH, including exploring ways to respond to public health threats, allows for the rapid identification and advancement of a vaccine candidate against 2019-nCoV.

"Moderna's commitment to global public health is aligned with CEPI's vision of creating a world in which epidemics are no longer a threat to humanity," said Richard Hatchett, M.D., CEO of CEPI. "We are pleased with the pace of our combined response to the emerging threat of the novel coronavirus. Through our partnership with Moderna and the NIH, we hope to speed the development of a vaccine against the coronavirus and help to alleviate the burden of disease."

"We believe our mRNA vaccine technology offers potential advantages in the speed of development and production scalability, which positions Moderna to potentially develop a vaccine against coronavirus, 2019-nCoV," said Stéphane Bancel, CEO of Moderna. "Advances in global public

The Coalition for Epidemic Preparedness Innovations (CEPI) launched today at the World Economic Forum in Davos, Switzerland, with $460 million in funding

http://www.cidrap.umn.edu/news-perspective/2017/01/new-460-million-effort-takes-aim-mers-lassa-nipah
https://archive.is/AtJ66
https://cepi.net/

New $460 million effort takes aim at MERS, Lassa, Nipah

Filed Under: **Lassa**; **Nipah**; **MERS-CoV**; **Public Health**

Stephanie Soucheray | News Reporter | CIDRAP News | Jan 19, 2017

Novartis AG / Flickr cc

The Coalition for Epidemic Preparedness Innovations (CEPI) launched today at the World Economic Forum in Davos, Switzerland, with $460 million in funding and an initial focus on developing vaccines against MERS, Lassa, and Nipah virus.

CEPI, a strategic vaccine development partnership, was created in the wake of the 2013-2016 Ebola outbreak as a way to rapidly develop vaccines for emerging infectious diseases.

"What CEPI is doing is providing a proof-of-concept approach to making world better prepared for new infectious agents," said Michael Osterholm, PhD, MPH, director of the Center for Infectious Disease Research and Policy at the University of Minnesota, publisher of CIDRAP News. Osterholm served on the planning committees that helped CEPI develop its initial vaccine targets. "I very much applaud this activity and how it reconsiders how we license and deploy these vaccines."

Billing itself as the world's insurance policy against new infectious diseases, CEPI will be based in Oslo, with offices in the United Kingdom, India, and the United States. The governments of Germany, Japan and Norway, plus the Bill & Melinda Gates Foundation and the Wellcome Trust have funded CEPI with an initial $460 million, and the organization plans to raise $1 billion within 5 years.

Two vaccine candidates per target

According to a press release from the Wellcome Trust, CEPI will shorten the time it takes to develop new vaccines by, "capitalizing on exciting developments in adaptable vaccine technology and investing in facilities that could respond quickly to previously unknown pathogens."

Coalition for Epidemic Preparedness Innovations

The Coalition for Epidemic Preparedness Innovations is a foundation that takes donations from public, private, philanthropic, and civil society organisations, to finance independent research projects to develop vaccines against emerging infectious disease. CEPI is focused on the World Health Organisation's "blueprint priority diseases", which includes: the Middle East respiratory syndrome-related coronavirus, the Severe acute respiratory syndrome coronavirus 2, the Nipah virus, the Lassa fever virus, and the Rift Valley fever virus, as well as the Chikungunya virus and the hypothetical, unknown pathogen "Disease X". CEPI investment also requires "equitable access" to the vaccines during outbreaks. CEPI was conceived in 2015 and formally launched in 2017 at the World Economic Forum in Davos, Switzerland. Wikipedia

Abbreviation: CEPI

Motto: New vaccines for a safer world

Founders: The Wellcome Trust, Bill and Melinda Gates Foundation.

Founded at: Davos, Switzerland.

Purpose: Fund vaccine development

Headquarters: Oslo, Norway

Locations: London, UK, Washington D.C, U.S.

Chief executive: Richard J. Hatchett

Key people: Jane Halton (Chair)

virusncov.com COVID-19 Coronavirus - Update

https://virusncov.com/

virusncov.com
COVID-19 Coronavirus - Update
Last updated: 2020-04-02 09:10:05 UTC+7

Statistics | Insights | Cases | Deaths | How | Prevention | Incub

Coronavirus Cases:

935,581

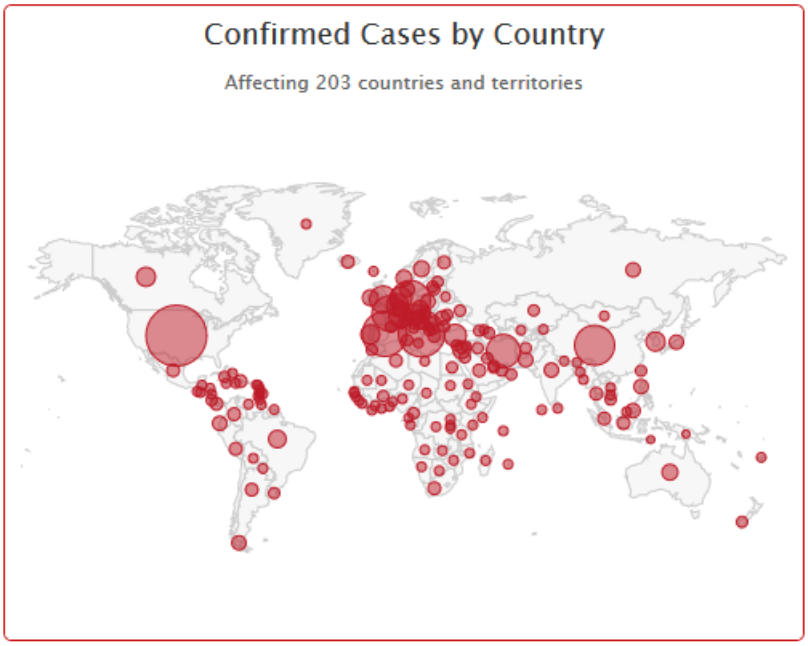
of which **35,478** in severe condition

Deaths: **47,223**

Recovered: **194,276**

The coronavirus COVID-19 is affecting **203** countries and territories

Source: WHO update...



http://www.cidrap.umn.edu/infectious-disease-topics/covid-19
https://archive.is/jTSgx

COVID-19

COVID-19 Resource Center

General Information

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Antivirals / Therapeutics
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Economic Burden/Societal Implications
Preparedness

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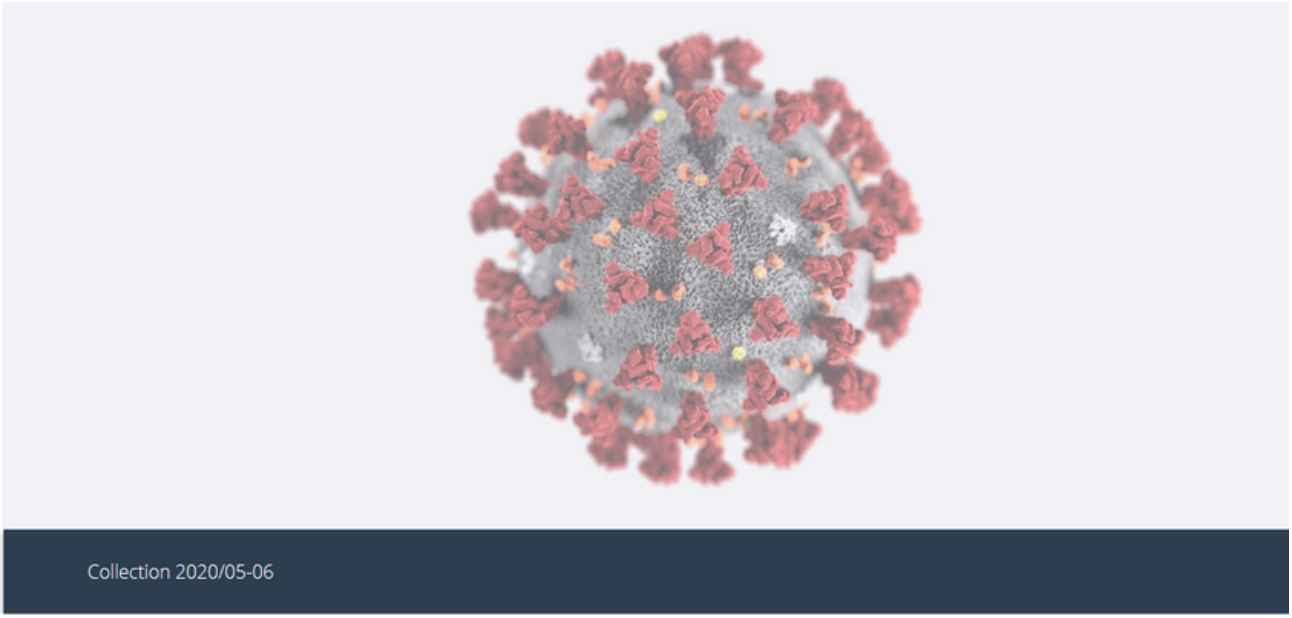
https://archive.is/5uSNb



Collection 2020/05-06

VIEWPOINT

2019-Novel Coronavirus (2019-nCoV): estimating the case fatality rate – a word of caution

DOI: https://doi.org/10.4414/smw.2020.20203
Publication Date: 07.02.2020
Swiss Med Wkly. 2020;150:w20203

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Mimics and chameleons of COVID-19
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Estimating and predicting the extent and lethality of the 2019-Novel Coronavirus (2019-nCoV) outbreak, originating in Wuhan/China is obviously challenging, reflected by many controversial statements and reports. Unsurpassed to date, an ever-increasing flow of information, immediately available and accessible online, has allowed the description of this emerging epidemic in real-time [1]. The first patients were reported in Wuhan on

https://twitter.com/WuhanAnalysis/status/1226276257651986432
COVID19 Analysis @WuhanAnalysis
https://archive.is/UHKJa
https://twitter.com/AdamJKucharski/status/1244687442885689345
https://archive.is/oUsqD
https://cmmid.github.io/topics/covid19/severity/global_cfr_estimates.html

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Trump has claimed hydroxychloroquine showed “tremendous promise” in regards to treating the COVID-19 strain of coronavirus.

saying: “It is known as a malaria drug, and it’s been around for a long time and it’s very powerful.
“But the nice part is, it’s been around for a long time, so we know that if things don’t go as planned, it’s not going to kill anybody.”

hydroxychloroquine

Research | Open Access | Published: 22 August 2005

Chloroquine is a potent inhibitor of SARS coronavirus infection and spread

Martin J Vincent, Eric Bergeron, Suzanne Benjannet, Bobbie R Erickson, Pierre E Rollin, Thomas G Ksiazek, Nabil G Seidah & Stuart T Nichol

Virology Journal **2**, Article number: 69 (2005) | Cite this article

Abstract

Background

Severe acute respiratory syndrome (SARS) is caused by a newly discovered coronavirus (SARS-CoV). No effective prophylactic or post-exposure therapy is currently available.

Results

We report, however, that chloroquine has strong antiviral effects on SARS-CoV infection of primate cells. These inhibitory effects are observed when the cells are treated with the drug either before or after exposure to the virus, suggesting both prophylactic and therapeutic advantage. In addition to the well-known functions of chloroquine such as elevations of endosomal pH, the drug appears to interfere with terminal glycosylation of the cellular receptor, angiotensin-converting enzyme 2. This may negatively influence the virus-receptor binding and abrogate the infection, with further ramifications by the elevation of vesicular pH, resulting in the inhibition of infection and spread of SARS CoV at clinically admissible concentrations.

Research | Open Access | Published: 22 August 2005

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Abstract

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The first of these – produced by Boston-based biotech firm Moderna – will enter human trials imminently.

In the USA, President Donald Trump has claimed hydroxychloroquine showed "tremendous promise" in regards to treating the COVID-19 strain of coronavirus.

Mr Trump talked about the drug at a White House press conference on Thursday, saying: "It is known as a malaria drug, and it's been around for a long time and it's very powerful.

"But the nice part is, it's been around for a long time, so we know that if things don't go as planned, it's not going to kill anybody."

SEPT 2016 biotech's most secretive startups

statnews.com/2016/09/13/mod…

Dec 2018 Record Biotech IPO

Moderna Therapeutics Sets Record for Biggest Biotech IPO

Published: Dec 07, 2018 By Mark Terry

The long-awaited and massively hyped initial public offering (IPO) of **Moderna Therapeutics** **hit** the market yesterday. The company sold approximately 26.3 million shares priced at $23 a share. This exceeded the revised goal of $600 million by about $4.3 million. Shares are trading on the Nasdaq under the "MRNA" ticker symbol. The raise values the company at about $7.5 billion.

raised $324 million at a $2.2 billion market cap. Other top biotech IPOs included **Axovant Sciences**, which raised $315 million in 2015, giving it a $1.5 billion initial market cap, and **Galapagos NV**, which raised $275 million in an IPO in 2015, with an initial market cap of $1.7 billion. And a year before them, in 2014, **Juno Therapeutics** raised $264 million in its IPO, with a $2.2 billion market cap. **Celgene** **acquired** Juno earlier this year for $9 billion.
Last week Moderna **refiled** with the **Securities and Exchange Commission (SEC)**, raising its goal for its initial public offering from $500 million to $600 million. The company, which has no products on the market, is fantastic at raising money, but some analysts wonder if the company is overvalued. Since its founding in 2010, Moderna has raised more than $2.6 billion in equity financing. As of September 30, it had cash, cash equivalents, and investments of $1.2 billion.
The company focuses on messenger RNA (mRNA) therapeutics. mRNA's role is to transport genetic information from DNA to the ribosome, offering up the amino acid sequence of the eventual proteins the DNA is coding for. Moderna's tech platform is designed to engineer mRNA to deliver whatever protein codes they want the cells to produce, in effect, turning the cells themselves into vaccine or drug-manufacturing factories.
Moderna has a development pipeline of 21 programs. Ten are in the clinic and another three have open Investigational New Drug (INDs) submissions. Nine of those in the clinic are in Phase I and one is in Phase II, according to a July corporate update.

Although there is some skepticism as to whether Moderna can live up to expectations, it is unusual in the size of its pipeline. Most biotechs either have no products in the clinic when they launch an IPO, or they have one or two in early-stage trials and the funding is largely designed to help advance them into the clinic or more expensive late-stage trials.

Moderna's chief financial officer, **Lorence Kim**, told *Xconomy* earlier this year, "We're saying we can draw a picture that articulates an outsized return over time, and that outsized return comes from not one drug singly advancing by itself to approval, but instead by a technology that is pushed forward over time. The key thing for investors to wrap their arms around is: can we offer that sort of upside? We believe we can."

Not unusual in biotech IPOs, Moderna is probably years away from having a product on the market. Meanwhile, it has pretty high overhead with 680 staffers and a highly-compensated executive suite. **Stephen Hoge**, Moderna president, in 2017 received $19 million in options and a $4.4 million cash bonus. Kim received $5.5 million in stock and a $1 million cash bonus. And company chief executive officer **Stephane Bancel** received $4.6 million in options and a $1.5 million cash bonus. Those three accounted for a combined $40 million in cash and stock last year.

And in its latest SEC filings, it indicated it burned through almost $360 million in operating expenses in the first nine months of this year. It also stated it had accumulated a deficit of $865.2 million.

Bancel owned 10 percent of the company ahead of the IPO. He's the second-largest shareholder, behind **Flagship Pioneering**, which owned 19.5 percent prior to the IPO. **AstraZeneca** was the third-largest investor, with a pre-IPO stake of 8.4 percent.

The company has been secretive over its history, which it could be because it was privately owned. Now that it has gone public, it will face far more intense scrutiny. As most analysts note, and the company stated in its IPO filings, it's not clear if mRNA drug processes works or are safe. In addition, regulatory agencies such as the **U.S. Food and Drug Administration (FDA)** haven't evaluated these types of medicines, which makes the regulatory pathway uncertain.

biospace.com/article/modern

2020 #Funding Award from

#CEPI #GATES }

bloomberg.com/press-releases…

Moderna Announces Funding Award from CEPI to Accelerate Development of Messenger RNA (mRNA) Vaccine Against Novel Coronavirus

January 23, 2020, 2:15 PM UTC

Moderna Announces Funding Award from CEPI to Accelerate Development of Messenger RNA (mRNA) Vaccine Against Novel Coronavirus Collaboration includes the National Institutes of Health (NIH) and leverages flexibility of Moderna's mRNA vaccine technology Business Wire CAMBRIDGE, Mass. -- January 23, 2020 Moderna, Inc., (Nasdaq: MRNA) a clinical stage biotechnology company pioneering messenger RNA (mRNA) therapeutics and vaccines to create a new generation of transformative medicines for patients, and the Coalition for Epidemic Preparedness Innovations (CEPI), today announced a new collaboration to develop an mRNA vaccine against the

novel coronavirus (2019-nCoV). Under the terms of the agreement, Moderna will manufacture an mRNA vaccine against 2019-nCoV, which will be funded by CEPI. The Vaccine Research Center (VRC) of the National Institute of Allergy and Infectious Diseases (NIAID), part of NIH, collaborated with Moderna to design the vaccine. NIAID will conduct IND-enabling studies and a Phase 1 clinical study in the U.S. Over the past four years Moderna has had six positive Phase 1 clinical readouts in its prophylactic vaccines modality and moved two additional programs into development. Moderna's technology platform, fully integrated manufacturing site and development experience, combined with a multi-year relationship with the NIH, including exploring ways to respond to public health threats, allows for the rapid identification and advancement of a vaccine candidate against 2019-nCoV. "Moderna's commitment to global public health is aligned with CEPI's vision of creating a world in which epidemics are no longer a threat to humanity," said Richard Hatchett, M.D., CEO of CEPI. "We are pleased with the pace of our combined response to the emerging threat of the novel coronavirus. Through our partnership with Moderna and the NIH, we hope to speed the development of a vaccine against the coronavirus and help to alleviate the burden of disease." "We believe our mRNA vaccine technology offers potential advantages in the speed of development and production scalability, which positions Moderna to potentially develop a vaccine against coronavirus, 2019-nCoV," said Stéphane Bancel, CEO of Moderna. "Advances in global public health require the collective effort of public-private partnerships – no organization can act alone. We are honored to be supporting NIH and CEPI in their mission to identify a potential vaccine to prevent infection. It is impressive that CEPI was able to commit to this grant in a matter of days. We are thankful for the financial support from CEPI and the multi-year scientific collaboration we have with the NIH." About Coronavirus Coronaviruses are a family of viruses that can lead to respiratory illness, including Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Coronaviruses are transmitted between animals and people and can evolve into strains not previously identified in humans. On January 7, 2020, a novel coronavirus (2019-nCoV) was identified as the cause of pneumonia cases in Wuhan City, Hubei Province of China, and additional cases have been found in a growing number of countries.^1,2 About Moderna's Prophylactic Vaccines Modality Moderna scientists designed the Company's prophylactic vaccines modality to prevent or control infectious diseases. This modality now includes five programs, all of which are vaccines against viruses. More than 1,000 participants have been enrolled in Moderna's infectious disease vaccine clinical studies under health authorities in the U.S., Europe and Australia. The potential advantages of an mRNA approach to prophylactic vaccines include the ability to mimic natural infection to stimulate a more potent immune response, combining multiple mRNAs into a single vaccine, rapid discovery to respond to emerging pandemic threats and manufacturing agility derived from the platform nature of mRNA vaccine design and production. Moderna currently has five development candidates for potential commercial uses in this modality, including: respiratory syncytial virus (RSV) vaccine (mRNA-1777 and mRNA-1172 or V172 with Merck), cytomegalovirus (CMV) vaccine (mRNA-1647), human metapneumovirus and parainfluenza virus type 3 (hMPV/PIV3) vaccine (mRNA-1653) and Zika vaccine (mRNA-1893) with the Biomedical Advanced Research and Development Authority (BARDA). Three development candidates in this modality are available for potential global health uses including: influenza H10N8 vaccine (mRNA-1440), influenza H7N9 vaccine (mRNA-1851) and chikungunya vaccine (mRNA-1388), which was developed with the Defense Advanced Research Projects Agency (DARPA). To date, Moderna has demonstrated positive Phase 1 data readouts for six prophylactic vaccines (H10N8, H7N9, RSV, chikungunya virus, hMPV/PIV3 and CMV). Moderna's CMV vaccine is currently in a Phase 2 dose-selection study. Moderna's investigational Zika vaccine (mRNA-1893), currently in a Phase 1 study, was granted FDA Fast Track designation. Moderna has built a fully integrated, highly digitalized manufacturing plant in Norwood, MA which enables the promise of the technology platform.

April 2020 $483 mil USGOV

https://today.line.me/id/pc/article/Moderna+gets+further+472+million+US+award+for+coronavirus+vaccine+development-l809YB… J

ULY 20 $472 MIL USGO

Moderna gets further $472 million US award for coronavirus vaccine development

thejakartapost.com The Jakarta Post
Diterbitkan : 12.54, 27/07/2020

A woman cleans the entrance doors to Moderna headquarters in Cambridge, Massachusetts on May 18, 2020.Moderna Inc said on Sunday it has received an additional $472 million from the US government's Biomedical Advanced Research and Development Authority (BARDA) to support development of its novel coronavirus vaccine.

Moderna Inc said on Sunday it has received an additional $472 million from the US government's Biomedical Advanced Research and Development Authority (BARDA) to support development of its novel coronavirus vaccine.

The US-based drug maker said the additional funding will support its late-stage clinical development including the expanded Phase 3 study of Moderna's vaccine candidate.

In April, Moderna had received $483 million from the US federal agency that funds disease-fighting technology, when the experimental vaccine was in an early-stage trial conducted by the US National Institutes of Health.

"Encouraged by the Phase 1 data, we believe that our mRNA vaccine may aid in addressing the COVID-19 pandemic and preventing future outbreaks," Chief Executive Officer Stéphane Bancel said in a press release.

BARDA's total funding for the experimental vaccine of Moderna, the first in the United States to begin human trials of a coronavirus vaccine, is now about $955 million.

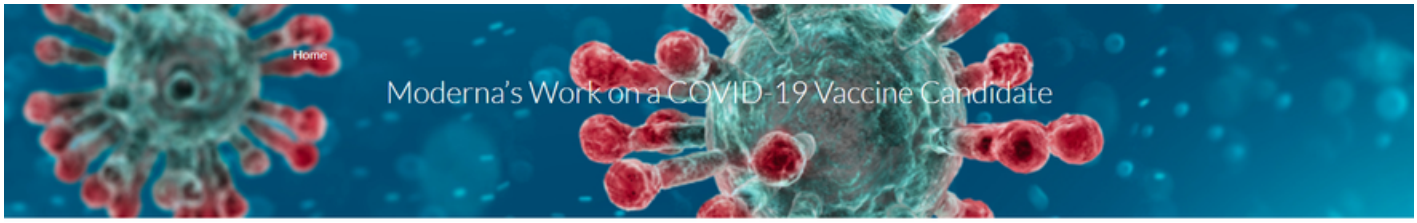
The vaccine uses synthetic messenger RNA (mRNA) to inoculate against the coronavirus. Such treatments help the body immunize against a virus and can potentially be developed and manufactured more quickly than traditional vaccines.

A Phase 3 study, conducted in collaboration with the National Institute of Allergy and Infectious Diseases, will begin on July 27 and involve about 30,000 participants, according to the company.

Moderna said it remains on track to be able to deliver about 500 million doses per year, and possibly up to 1 billion doses per year, beginning in 2021.

The announcement about further funding came two days after the drug developer said its formula used in developing the vaccine was not covered under patents owned by Arbutus Biopharma

Pfizer Inc, Novavax Inc, Britian's AstraZeneca Plc are other few drug makers that received funding from BARDA for coronavirus vaccine development.



Time is of the essence to provide a vaccine against this pandemic virus.

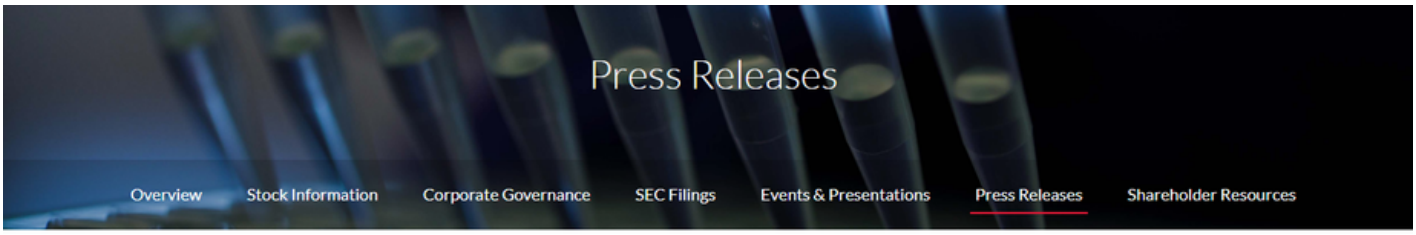
Moderna is proud to be among the many groups working to respond to this continuing global health emergency. This page summarizes key milestones in our work to advance mRNA-1273, our vaccine candidate against the novel coronavirus.

Learn about ou
CMV
vaccine candid

BARDA expands agreement to support larger Phase 3 program for mRNA-1273 Jul 26

Jul 27 The Phase 3 study of mRNA-1273 being conducted in collaboration with the NIH and BARDA begins

Jul 14 Interim results from the NIH-led Phase 1 study of mRNA-1273 published in *The New*



Moderna Receives FDA Fast Track Designation for mRNA Vaccine (mRNA-1273) Against Novel Coronavirus

May 12, 2020 at 8:00 AM EDT

PDF Version

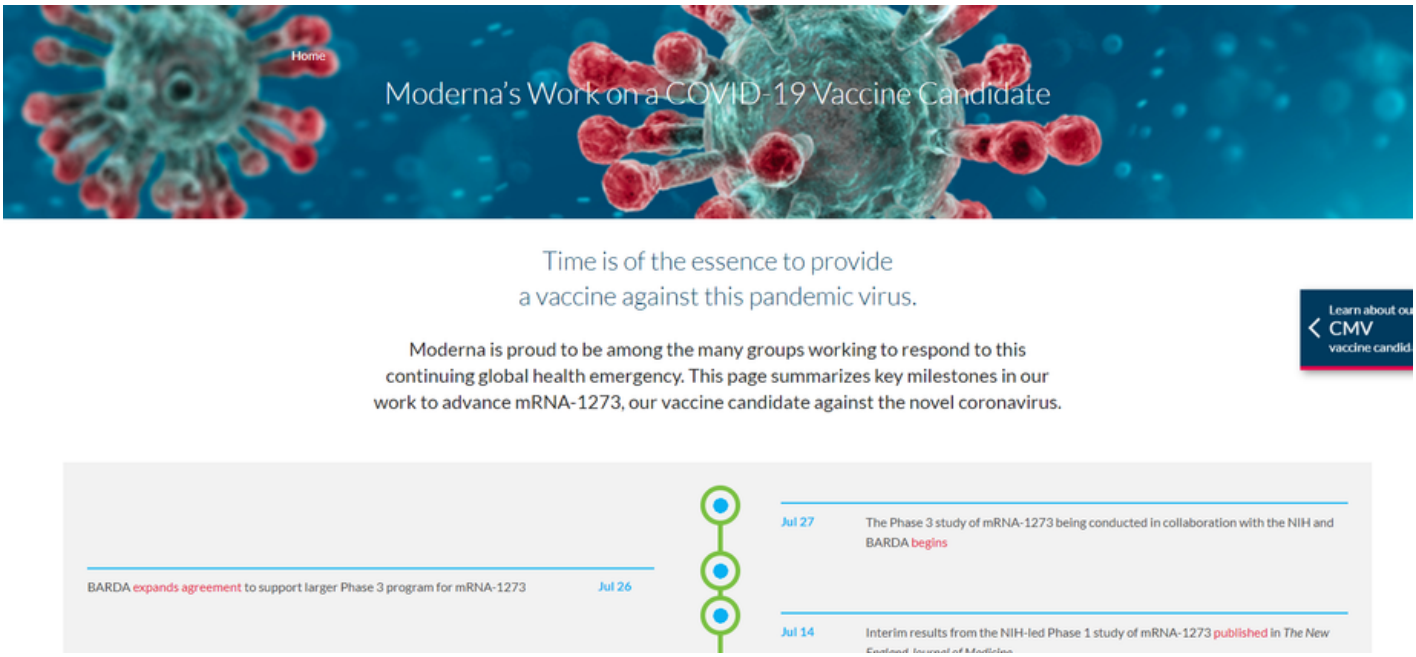
Finalizing protocol for Phase 3 study of mRNA-1273, expected to begin in early summer of 2020

4th Moderna mRNA program to receive Fast Track designation

CAMBRIDGE, Mass.--(BUSINESS WIRE)--May 12, 2020-- Moderna, Inc., (Nasdaq: MRNA) a clinical stage biotechnology company pioneering messenger RNA (mRNA) therapeutics and vaccines to create a new generation of transformative medicines for patients, today announced that the U.S. Food and Drug Administration (FDA) has granted Fast Track designation for the Company's mRNA vaccine candidate (mRNA-1273) against the novel coronavirus (SARS-CoV-2).

"Fast Track designation underscores the urgent need for a vaccine against the novel coronavirus," said Tal Zaks, M.D., Ph.D., Chief Medical Officer at Moderna. "As we await the full set of clinical data from the NIAID-led Phase 1 study, we are actively preparing for our Phase 2 and Phase 3 clinical studies to continue learning about the potential of mRNA-1273 to protect against SARS-CoV-2."

Fast Track is designed to facilitate the development and expedite the review of therapies and vaccines for serious conditions and fill an unmet medical need. Programs with Fast Track designation may benefit from early and frequent communication with the FDA, in addition to a rolling submission of the marketing application. The Company previously received Fast Track designation for its investigational Zika vaccine (mRNA-1893) and its methylmalonic

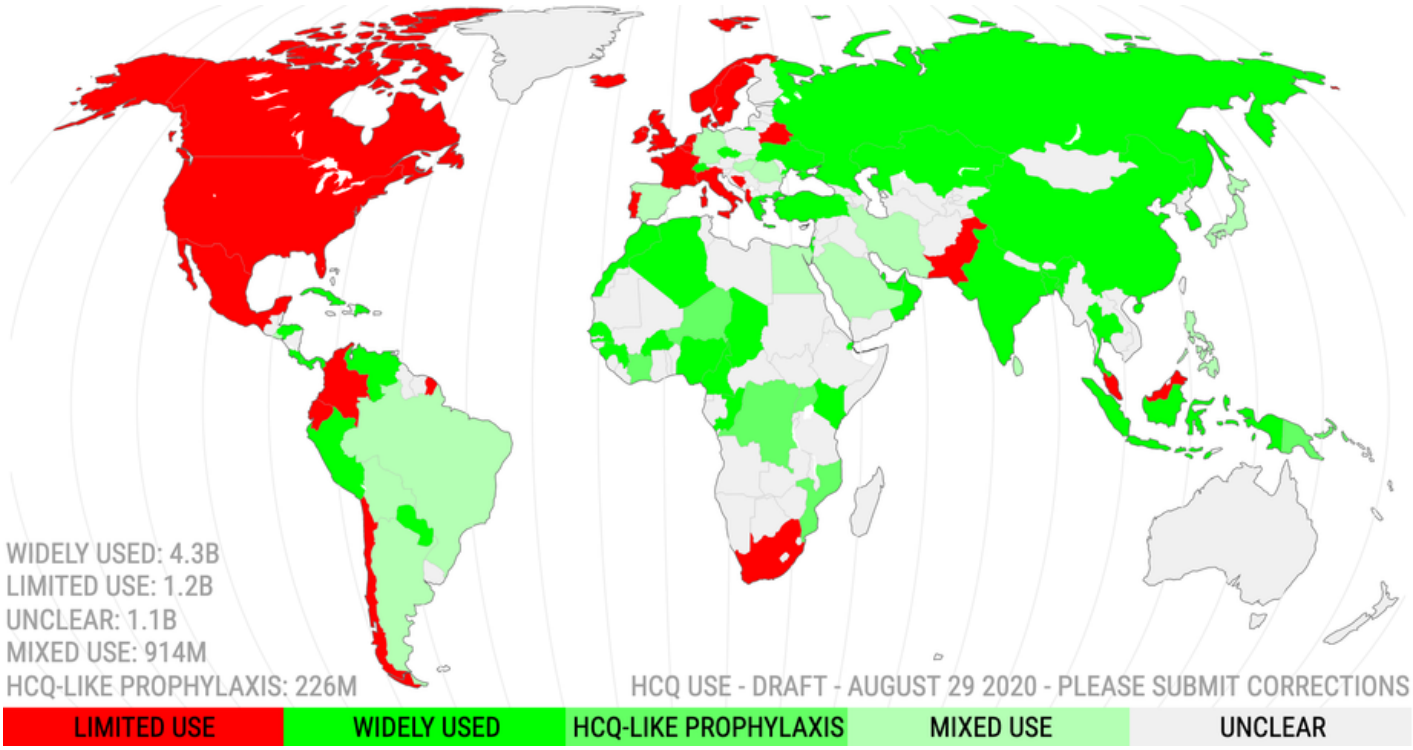


SO WTF

Several more studies have confirmed the effectiveness
#HCQ

https://c19study.com

PrEP100%PEP100%Early100%Late60%All72%
82 studies (47 peer reviewed)
Global HCQ studies.PrEP, PEP, and early treatment studies show efficacy,
while late treatment shows mixed results.



Note: In Vitro, Ex Vivo, Meta, Theory, Safety, Review, News, and Retracted items are not included in the percentages and study count. There is a total of 140 items. Recently added studies: IHU Marseille et al., Fiolet et al. Positive/negative effects vary in degree and certainty, please read the papers or descriptions thereof for more details. Every study has some limitations when considered in isolation (for example confounding factors; sub-optimal treatment regimens; dosing regimens that may be too low, too high, or insufficiently account for the long half-life of HCQ; large treatment delays; small sample sizes; lack of focus on severity; reliance on Internet surveys; and patient characteristics very different from the most at-risk population).

8/26	Meta	Early,... *IHU Marseille (Preprint) (meta analysis - not...*	Meta-analysis on chloroquine derivatives and COVID-19 mortality
		Updated meta analysis of 26 studies showing CQ/HCQ OR 0.60 [0.50 - 0.73], p<0.0001 from clinical studies (~**269,771** potential lives saved with g...	
8/26	Meta	Late *Fiolet et al., Clinical Microbiology and Infecti...*	Effect of hydroxychloroquine with or without azithromycin on the mortality of COVID-19 ...
		Meta analysis of late stage studies (and one early treatment study with only 2 deaths), showing HCQ RR 0.83 [0.65-1.06], before exclusions RR 0.8...	
8/25	Positive	Early *Ip et al., medRxiv, doi:10.1101/2020.08.20.2...*	Hydroxychloroquine in the treatment of outpatients with mildly symptomatic COVID-19: ...
		Retrospective 1,274 outpatients, 47% reduction in hospitalization with HCQ with propensity matching, HCQ OR 0.53 [0.29-0.95]. Sensitivity analyse...	
8/25	Positive	Late *Castelnuovo et al., European J. Internal Med...*	Use of hydroxychloroquine in hospitalised COVID-19 patients is associated with reduced...
		Retrospective 3,451 hospitalized patients showing a 30% reduction in mortality with HCQ after propensity adjustment, HR 0.70 [0.59 - 0.84] (~...	
8/24	Positive	Late *Catteau et al., Int. J. Antimicrobial Agents, d...*	Low-dose Hydroxychloroquine Therapy and Mortality in Hospitalized Patients with COVI...
		Retrospective 8,075 hospitalized patients, 4,542 low-dose HCQ, 3,533 control. 35% lower mortality for HCQ (17.7% vs. 27.1%), adjusted HR 0.68 [0...	
8/21	Positive	Early *Ly et al., Preprint, 2020 (Preprint)*	Pattern of SARS-CoV-2 infection among dependant elderly residents living in retirement ...
		Retrospective analysis of retirement homes, HCQ+AZ >= 3 days mortality OR 0.39, p=0.026 (~**364,191** potential lives saved with global HCQ). 169...	
8/21	Safety	N/A *Lane et al., The Lancet Rheumatology, doi:1...*	Risk of hydroxychloroquine alone and in combination with azithromycin in the treatment...
		Retrospective study of RA patients using HCQ vs. sulfasalazine (another DMARD). HCQ treatment showed no increased risk in the short term (up ...	
8/21	Positive	Late *Gonzalez et al., medRxiv, doi:10.1101/2020....*	The Prognostic Value of Eosinophil Recovery in COVID-19: A Multicentre, Retrospective ...
		Retrospective study focused on eosinophil recovery with 9,644 hospitalized patients in Spain, showing lower mortality for HCQ (14.7% vs 29.2%, p...	
8/20	Positive	Late *Dubernet et al., J. Global Antimicrobial Resi...*	A comprehensive strategy for the early treatment of COVID-19 with azithromycin/hydrox...
		Retrospective analysis of 36 hospitalized patients showing HCQ/AZ associated with lower ICU admission, p=0.008. Median age 66, no mortality. ...	
8/20	Safety	Early *Prodromos, C., New Microbes and New Infe...*	Hydroxychloroquine is protective to the heart, not Harmful: A systematic review
		Review concluding that HCQ/AZ does not cause Torsade de Pointes or related deaths, HCQ decreases cardiac events, and HCQ should not be res...	
8/17	Safety	Early *Mohana et al., medRxiv, doi:10.1101/2020.0...*	Hydroxychloroquine Safety Outcome within Approved Therapeutic Protocol for COVID-1...
		Safety study of 2,733 patients in Saudi Arabia showing HCQ in mild to moderate cases in an outpatient setting, within the protocol recommendati...	

Surgisphere: governments and WHO changed Covid-19 policy based on suspect data from tiny US company

Surgisphere, whose employees appear to include a sci-fi writer and adult content model, provided database behind Lancet and New England Journal of Medicine hydroxychloroquine studies

▲ A tiny US company, Surgisphere, is behind flawed data which led to governments and the world health organisation changing health policy Photograph: Anthony Brown/Alamy Stock Photo

The World Health Organization and a number of national governments have changed their Covid-19 policies and treatments on the basis of flawed data from a little-known US healthcare analytics company, also calling into

On 22 May the Lancet published a blockbuster peer-reviewed study which found the antimalarial drug hydroxychloroquine, which has been promoted by Donald Trump, was associated with a higher mortality rate in Covid-19 patients and increased heart problems.

Trump, much to the dismay of the scientific community, had publicly touted hydroxychloroquine as a “wonder drug” despite no evidence of its efficacy for treating Covid-19.

The Lancet study, which listed Desai as one of the co-authors, claimed to have analysed Surgisphere data collected from nearly 96,000 patients with Covid-19, admitted to 671 hospitals from their database of 1,200 hospitals around the world, who received hydroxychloroquine alone or in combination with antibiotics.

The negative findings made global news and prompted the WHO to halt the hydroxychloroquine arm of its global trials.

But only days later Guardian Australia revealed glaring errors in the Australian data included in the study. The study said researchers gained access to data through Surgisphere from five hospitals, recording 600 Australian Covid-19 patients and 73 Australian deaths as of 21 April.

But data from Johns Hopkins University shows only 67 deaths from Covid-19 had been recorded in Australia by 21 April. The number did not rise to 73 until 23 April. Desai said one Asian hospital had accidentally been included in the Australian data, leading to an overestimate of cases there. The Lancet published a small retraction related to the Australian findings after the Guardian's story, its only amendment to the study so far.

The Guardian has since contacted five hospitals in Melbourne and two in Sydney, whose cooperation would have been essential for the Australian patient numbers in the database to be reached. All denied any role in such a database, and said they had never heard of Surgisphere. Desai did not respond to requests to comment on their statements.

Another study using the Surgisphere database, again co-authored by Desai, found the anti-parasite drug ivermectin reduced death rates in severely ill Covid-19 patients. It was published online in the Social Science Research Network e-library, before peer-review or publication in a medical journal, and prompted the Peruvian government to add ivermectin to its national Covid-19 therapeutic guidelines.

The New England Journal of Medicine also published a peer-reviewed Desai study based on Surgisphere data, which included data from Covid-19 patients from 169 hospitals in 11 countries in Asia, Europe and North America. It found common heart medications known as angiotensin-converting–enzyme inhibitors and angiotensin-receptor blockers were not associated with a higher risk of harm in Covid-19 patients.

BOTH NOW RETRACTED YET FDA HAVING REVERSED ITS DECISION ALLOWING ITS USE OFF LABEL FOR COV19 HAS NOT REVERSED IT DECISION

In the Recovery and Solidarity clinical trials, it is not excluded that patients died as a result of a therapeutic overdose of hydroxychloroquine (HCQ). Hydroxychloroquine continues to be the subject of many conversations. **27 Brazilian researchers are now facing legal charges for overdosing HCQ, resulting in the deaths of 11 patients in Manaus** (capital of the state of Amazonas in Brazil). The toxicity alert for the Brazilian clinical trial was raised on April 17, 2020.

A synthetic COVID virus highly pathogenic for humans created by the Wuhan Institute of Virology and the USA.

Published on 06/08/2020 at 10:34 - Updated on 07/29/2020 at 11:21

Wuham
Pixabay

-

Author (s): **Valère Lounnas for FranceSoir** - A + A

TRIBUNE ANALYSIS- This is not yet another fake news but an indisputable reality described in an article freely available on the internet, published in 2015 in Nature Medicine. A completely extraordinary scientific text which describes the manufacture of a viable chimeric synthetic COVID virus

and highly pathogenic for humans on the pretext of studying the pandemic potential of coronaviruses of animal origin of which bats are a natural reservoir .

Editor's note: this article represents an analysis of coronaviruses in general which are not to be confused with Covid-19 which is a subset of it. According to an article in Nature, SARS-Cov2 would ***probably*** *be associated as a Nature article says with the bat. (updated July 20, 2020)*

The scientists responsible for this research are **Ralph S. Baric** , professor and director of the microbiology laboratory at Chapel Hill University (North Carolina) and **Shi Zheng Li** , doctor in microbiology graduated from the Faculty of Sciences of Montpellier, now at head of the biosafety and special pathogens laboratory at the famous Wuhan Institute of Virology.

In retrospect, this article takes on a premonitory character which questions the situation in which the entire planet was plunged in 2020.

After an introduction which mentions the global chaos which would result from a pandemic caused by a coronavirus of bats which would have crossed the species barrier to infect humans, we discover the detailed description of the manufacture of an artificial virus with a pathogenic character as marked as that of the 2002-2003 epidemic. This chimeric virus was a synthetic hybrid, constructed from the 2002-2003 mouse-adapted human acute respiratory syndrome (SARS) virus (SARS-MA15). In a second step, the surface protein S (spicule) of the virus adapted to mice was substituted by the spike protein SHC014 originating froma bat virus identified at the Wuhan institute. The presence of the SHC014 protein in a bat coronavirus that binds to ACE2 cell penetration receptors found in many mammals is the great discovery of Shi Zheng Li published in Nature in 2013.

The question was whether the SHC014 protein could activate human ACE2 directly without adaptation, since it had **five mutations** in regions essential for its binding to the ACE2 receptor compared to the S protein of SARS-Cov from 2002-2003. The chimeric virus produced, dubbed SHC014-MA15, was perfectly viable and replicated in human upper respiratory cell cultures at the same concentration levels as seen in patients of the deadly 2002-2003 epidemic. In contrast, laboratory mice infected with the hybrid SHC014-MA15 virus developed a noticeable pathogenic effect with weight loss but little mortality while those infected with the adapted SARS-MA15 virus died within 4 days.

Remarkably, the SHC014 protein conferred on the hybrid virus SHC014-MA15 **a very pronounced infectious character and specific to the cells of the human upper respiratory tract without the need for adaptation mutations.**

The surface protein SHC014 of the eponymous bat virus is therefore likely, **once artificially integrated into other viruses, to enhance their pathogenesis to a potentially fatal level.**comparable to that of the 2003 epidemic. This kind of research which consists in increasing the biological capacities of an organism by genetic manipulation obtained by microbiology is now banned from institutional research in the USA. Note that in his statements to the press a French virologist expert denied that such manipulations could have taken place in Wuhan or elsewhere. However, what about research in secret military laboratories? On reading this article, we understand better why the Americans and Chinese accuse each other of having been at the origin of the SARS-Cov2 (COVID-19) pandemic ...

We also better understand **the fears that the authorities have about the feasibility of a vaccine** , the perhaps limited duration of acquired immunity, but also the possibility of life-saving cross-immunity between coronaviruses. All these questions are dealt with in depth by the authors through a series of experiments carried out on their laboratory mice.

Valère Lounnas is a former scientific researcher at the European Molecular Biology Laboratory (EMBL) in Heidelberg. His specialty was **the theoretical study of proteins** and their function. He then worked in the pharmaceutical industry in computer-aided drug design (CMAO) before becoming a medical writer.

We are making available to interested readers the rigorous literal translation of this article published in 2015 in Nature Medecine.
Translation of the Nature Medecine article: Download the PDF version
FILE [A synthetic COVID virus highly pathogenic for humans created by the Wuhan Institute of Virology and the USA]

"

Construction of SARS-like chimeric viruses.

Both wild-type and chimeric viruses were derived from either SARS-CoV Urbani or the corresponding mouse-adapted (SARS-CoV MA15) infectious clone (ic) as previously described[27]. Plasmids containing spike sequences for SHC014 were extracted by restriction digest and ligated into the E and F plasmid of the MA15 infectious clone. The clone was designed and purchased from Bio Basic as six contiguous cDNAs using published sequences flanked by unique class II restriction endonuclease sites (BglI). Thereafter, plasmids containing wild-type, chimeric SARS-CoV and SHC014-CoV genome fragments were amplified, excised, ligated and purified. *In vitro* transcription reactions were then preformed to synthesize full-length genomic RNA, which was transfected into Vero E6 cells as previously described[2]. The medium from transfected cells was harvested and served as seed stocks for subsequent experiments. Chimeric and full-length viruses were confirmed by sequence analysis before use in these studies. Synthetic construction of chimeric mutant and full-length SHC014-CoV was approved by the University of North Carolina Institutional Biosafety Committee and the Dual Use Research of Concern committee.

https://www.nature.com/articles/nm.3985

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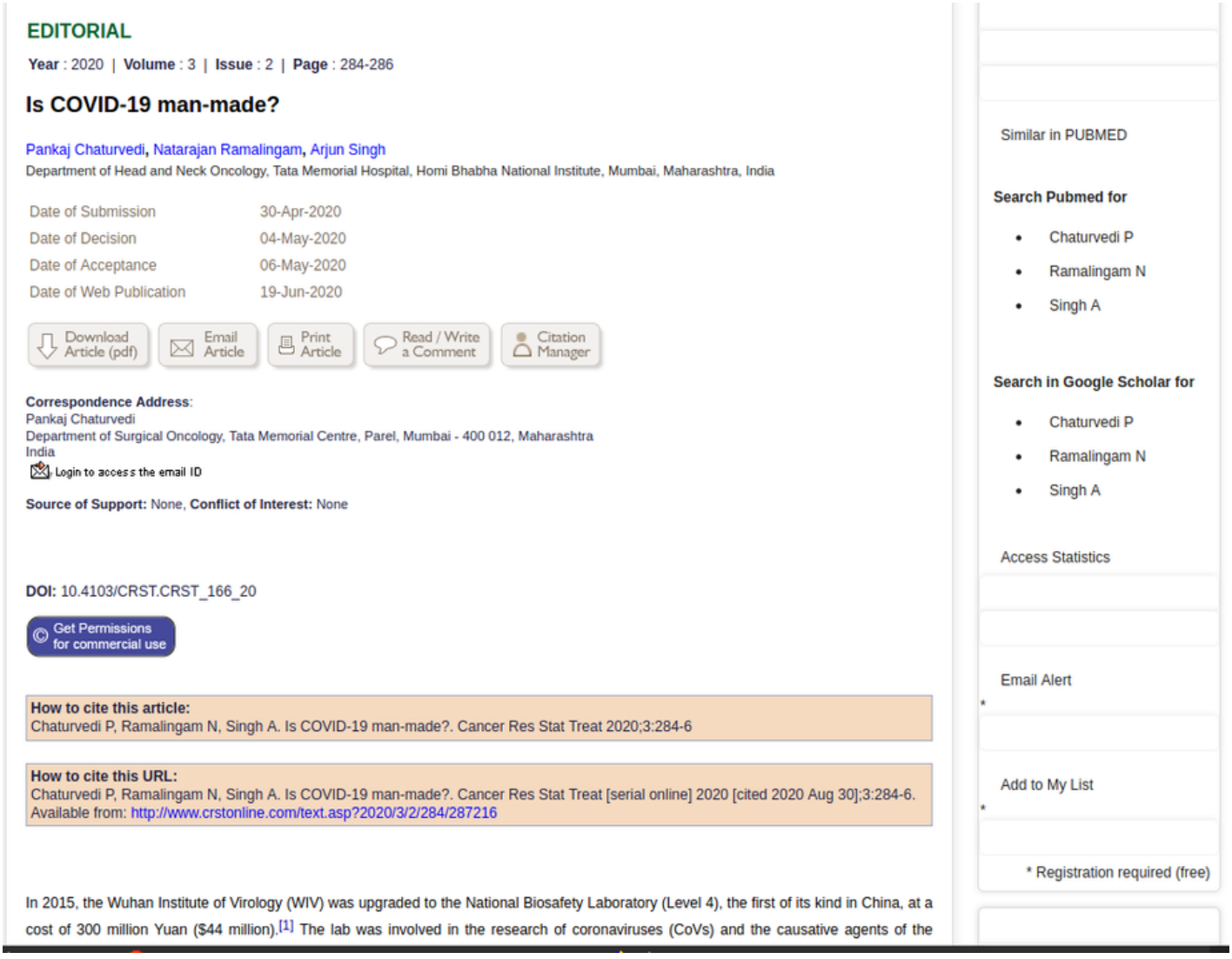
BELOW IS CIA I THINK - -- DUMB ENOUGH



EDITORIAL

Year : 2020 | **Volume** : 3 | **Issue** : 2 | **Page** : 284-286

Is COVID-19 man-made?

Pankaj Chaturvedi, Natarajan Ramalingam, Arjun Singh

Department of Head and Neck Oncology, Tata Memorial Hospital, Homi Bhabha National Institute, Mumbai, Maharashtra, India

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Date of Decision	04-May-2020
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Source of Support: None, **Conflict of Interest:** None

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In 2015, the Wuhan Institute of Virology (WIV) was upgraded to the National Biosafety Laboratory (Level 4), the first of its kind in China, at a cost of 300 million Yuan ($44 million).[1] The lab was involved in the research of coronaviruses (CoVs) and the causative agents of the

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OH LOOK CHINAS OPEN

http://english.whiov.cas.cn/

Hydroxychloroquine, a less toxic derivative of chloroquine, is effective in inhibiting SARS-CoV-2 infection in vitro

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References
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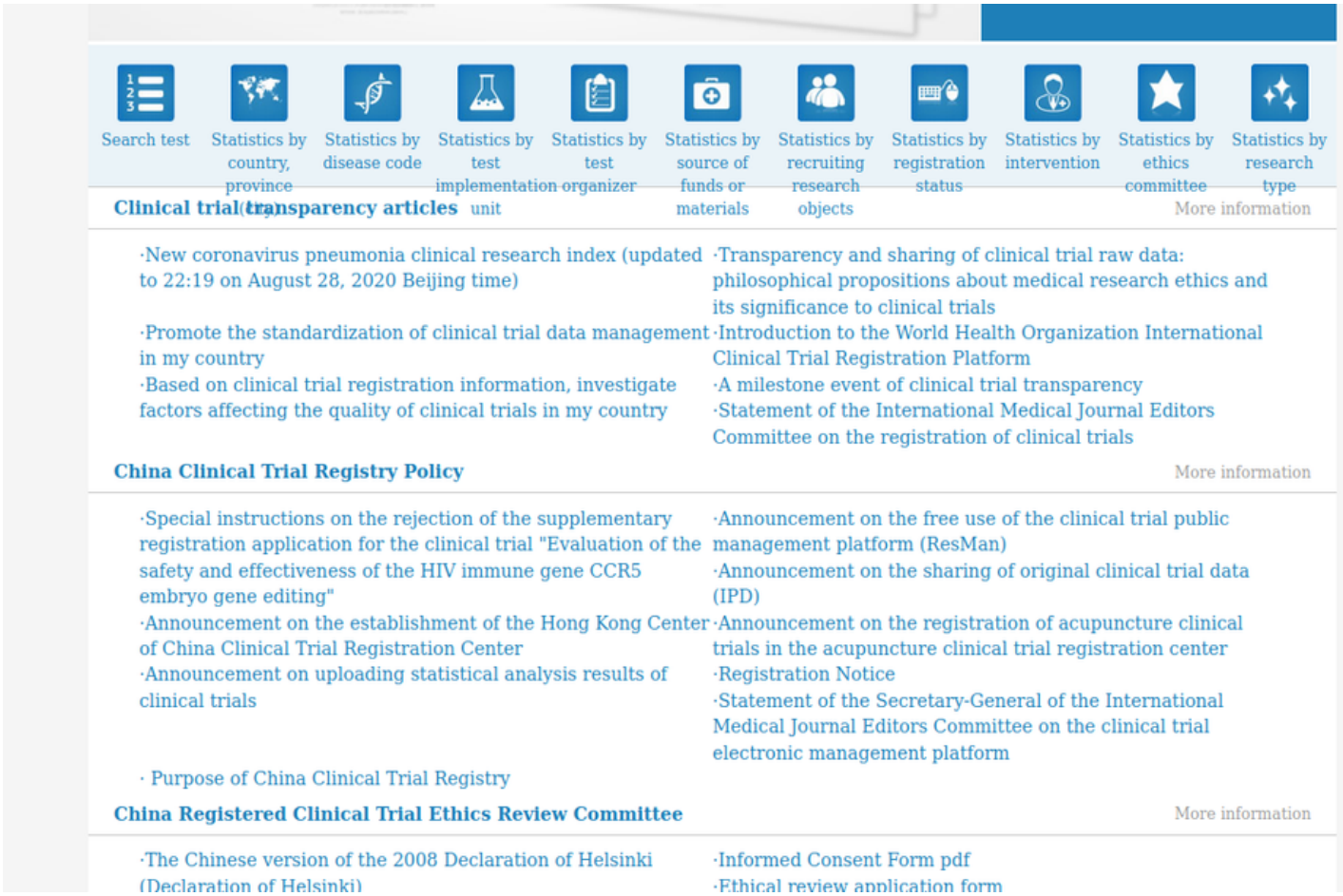
About this article
Further reading

The outbreak of coronavirus disease 2019 (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2/2019-nCoV) poses a serious threat to global public health and local economies. As of March 3, 2020, over 80,000 cases have been confirmed in China, including 2946 deaths as well as over 10,566 confirmed cases in 72 other countries. Such huge numbers of infected and dead people call for an urgent demand of effective, available, and affordable drugs to control and diminish the epidemic.

We have recently reported that two drugs, remdesivir (GS-5734) and chloroquine (CQ) phosphate, efficiently inhibited SARS-CoV-2 infection in vitro[1]. Remdesivir is a nucleoside analog prodrug developed by Gilead Sciences (USA). A recent case report showed that treatment with remdesivir improved the clinical condition of the first patient infected by SARS-CoV-2 in the United States[2], and a phase III clinical trial of remdesivir against SARS-CoV-2 was launched in Wuhan on February 4, 2020. However, as an experimental drug, remdesivir is not expected to be largely available for treating a very large number of patients in a timely manner. Therefore, of the two potential drugs, CQ appears to be the drug of choice for large-scale use due to its availability, proven safety record, and a relatively low cost. In light of the preliminary clinical data, CQ has been added to the list of trial drugs in the Guidelines for the Diagnosis and Treatment of COVID-19 (sixth edition) published by National Health Commission of the People's Republic of China.

CQ (N4-(7-Chloro-4-quinolinyl)-N1,N1-diethyl-1,4-pentanediamine) has long been used to treat malaria and amebiasis. However, *Plasmodium falciparum* developed widespread resistance

http://english.whiov.cas.cn/



Cumulative number of studies	Registration Number	Registration date	Researcher unit	Researcher Unit (English)	Registration topic	Registration title (English)	Expected date of inclusion of participants
1	ChiCTR2000029308	1/23/2020	Wuhan Jinyintan Hospital (Wuhan Infectious Disease Hospital)	Wuhan Jinyintan Hospital (Wuhan Infectious Diseases Hospital)	A randomized, open, blank controlled study evaluating the efficacy and safety of lopinavir/ritonavir and interferon-α2b in the treatment of hospitalized patients with novel coronavirus pneumonia (COVID-19)	A randomized, open-label, blank-controlled trial for the efficacy and safety of lopinavir-ritonavir and interferon-alpha 2b in hospitalization patients with novel coronavirus pneumonia (COVID-19)	1/10/2020
2	ChiCTR2000029381	1/27/2020	The First Affiliated Hospital of Guangzhou Medical University	The First Affiliated Hospital of Guangzhou Medical University	A prospective controlled study of Xuebijing injection in the treatment of novel coronavirus pneumonia (COVID-19)	A prospective comparative study for Xue-Bi-Jing injection in the treatment of novel coronavirus pneumonia (COVID-19)	1/24/2020
3	ChiCTR2000029386	1/28/2020	Chongqing Public Health Medical Treatment Center	Chongqing Public Health Medical Center	A randomized controlled study of glucocorticoids in the treatment of severe new coronavirus pneumonia (COVID-19)	Adjunctive Corticosteroid Therapy for Patients with Severe Novel Coronavirus Pneumonia (COVID-19): a Randomized Controlled Trial	1/29/2020
4	ChiCTR2000029387	1/28/2020	Chongqing Public Health Medical Treatment Center	Chongqing Public Health Medical Center	A randomized controlled study of treatment strategies for mild to moderate novel coronavirus pneumonia (COVID-19)	Comparison of efficacy and safety of three antiviral regimens in patients with mild to moderate novel coronavirus pneumonia (COVID-19): a randomized controlled trial	1/25/2020
5	ChiCTR2000029400	1/29/2020	China Academy of Chinese Medical Sciences	China Academy of Chinese Medical Sciences	Clinical Controlled Study on Treatment of Novel Coronavirus Pneumonia (COVID-19) with Traditional Chinese Medicine	Clinical Controlled Trial for Traditional Chinese Medicine in the treatment of Novel Coronavirus Pneumonia (COVID-19)	1/29/2020
6	ChiCTR2000029418	1/30/2020	Dongzhimen Hospital, Beijing University of Chinese Medicine	Dongzhimen Hospital Affiliated to Beijing University of Chinese Medicine	A Randomized Controlled Trial of Traditional Chinese Medicine in the Treatment of Severe Patients with Novel Coronavirus Pneumonia (COVID-19)	Chinese Herbal medicine for Severe nevel coronavirus pneumonia (COVID-19): a Randomized Controlled Trial	2/3/2020
7	ChiCTR2000029430	2/1/2020	Tianjin University of Traditional Chinese Medicine/Hubei Hospital of Integrated Traditional Chinese and Western Medicine	Hubei Integrated Hospital of Traditional Chinese and Western Medicine	Epidemiological Study on TCM Syndromes of Novel Coronavirus (COVID-19) Pneumonia	Study for the TCM syndrome characteristics of novel coronavirus pneumonia (COVID-19)	2/3/2020
8	ChiCTR2000029431	2/1/2020	Zhongshan Hospital Affiliated to Dalian University	Affiliated Zhongshan Hospital of Dalian University	Clinical study of anti-coronavirus pneumonia (COVID-19) treatment with macrophages as targets	Clinical study for the remedy of M1 macrophages target in the treatment of novel coronavirus pneumonia (COVID-19)	1/29/2020
9	ChiCTR2000029432	2/1/2020	The First Affiliated Hospital of Guangzhou University of Chinese Medicine	The First Afflicated Hospital of Guangzhou University of Chinese Medicine	Large-dose Tanreqing injection in the treatment of new coronavirus pneumonia (COVID-19) real world clinical study	A Real World Study for the Efficacy and Safety of Large Dose Tanreqing Injection in the Treatment of Patients with Novel Coronavirus Pneumonia (COVID-19)	2/1/2020
10	ChiCTR2000029433	2/1/2020	Hebei Yiling Hospital/Wuhan University People's Hospital	Hebei Yiling Hospital, Renmin Hospital of Wuhan University	Randomized, controlled clinical trial of Lianhua Qingwen Capsules/granules in the treatment of suspected cases of novel coronavirus pneumonia (COVID-19)	A randomized, open-label, blank-controlled trial for Lian-Hua Qing-Wen Capsule/Granule in the treatment of suspected novel coronavirus pneumonia (COVID-19)	2/1/2020
11	ChiCTR2000029434	2/1/2020	Hebei Yiling Hospital/Wuhan University People's Hospital	Hebei Yiling Hospital, Renmin Hospital of Wuhan University	Randomized, controlled clinical trial of Lianhua Qingwen capsules/granules in the treatment of new coronavirus pneumonia (COVID-19)	A randomized, open-label, blank-controlled trial for Lian-Hua Qing-Wen Capsule/Granule in the treatment of novel coronavirus pneumonia (COVID-19)	2/1/2020
12	ChiCTR2000029435	2/1/2020	Wuhan First Hospital	Wuhan 1st Hospital	A Randomized Controlled Trial of Traditional Chinese Medicine for the Prevention of Novel Coronavirus Pneumonia (COVID-19)	Randomized controlled trial for traditional Chinese medicine in the prevention of novel coronavirus pneumonia (COVID-19) in high risk population	2/1/2020
13	ChiCTR2000029436	2/1/2020	The First Affiliated Hospital of Henan University of Traditional Chinese Medicine	The First Hospital of He'nan University of Chinese Medicine	Efficacy evaluation of combined traditional Chinese and western medicine treatment plan for novel coronavirus pneumonia (COVID-19)	A single arm study for evaluation of integrated traditional Chinese and western medicine in the treatment of novel coronavirus pneumonia (COVID-19)	2/1/2020
14	ChiCTR2000029437	2/1/2020	Hubei Hospital of Integrated Traditional Chinese and Western Medicine/Tianjin University of Traditional Chinese Medicine	Hubei Provincial Integrated Hospital of traditional Chinese and Western Medicine	Single-cohort study on the treatment of novel coronavirus pneumonia (COVID-19) with integrated traditional Chinese and western medicine	A single arm study for combination of traditional Chinese and Western Medicine in the treatment of novel coronavirus pneumonia (COVID-19)	2/3/2020
15	ChiCTR2000029438	2/1/2020	Tianjin University of Traditional Chinese Medicine/Beijing Hospital of Traditional Chinese Medicine	Beijing hospital of Traditional Chinese medicine; Hubei integrated traditional Chinese and Western Medicine Hospital	Clinical trial of combined traditional Chinese and Western medicine on severe pneumonia caused by new coronavirus (COVID-19)	A randomized controlled trial of integrated TCM and Western Medicine in the treatment of severe 2019-nCoV pneumonia (novel coronavirus pneumonia, NCP)	2/4/2020
16	ChiCTR2000029439	2/1/2020	Tianjin University of Traditional Chinese Medicine/Beijing Hospital of Traditional Chinese Medicine; Wuhan Hospital of Traditional Chinese Medicine	Beijing Hospital of Traditional Chinese Medicine affiliated to Capital Medical University/Beijing institute of Traditional Chinese MedHubei integrated traditional Chinese and Western Medicine Hospital	Clinical trial of integrated traditional Chinese and western medicine in the treatment of common new type of coronavirus pneumonia (COVID-19)	Combination of traditional chinese medicne and western medicine in the treatment of common type 2019-nCoV pneumonia (novel coronavirus pneumonia, NCP)	2/2/2020
17	ChiCTR2000029459	2/2/2020	1. Xinhua Hospital Affiliated to Hubei University of Traditional Chinese Medicine 4. Hubei Hospital of Integrated Traditional Chinese and Western Medicine	1.Xinhua affiliated hospital, Hubei University of Chinese Medicine; 2. Hubei Provincial Hospital of Integrated Chinese and Western Medicine	The effect of pulmonary rehabilitation on the lung function and quality of life in patients with new coronavirus pneumonia (COVID-19)	The effect of pulmonary rehabilitation for pulmonary function and quality of life in patients with 2019-nCoV pneumonia (novel coronavirus pneumonia, NCP) in rehabilitation period	2/3/2020
18	ChiCTR2000029460	2/2/2020	1. Xinhua Hospital Affiliated to Hubei University of Traditional Chinese Medicine 3. Hubei Hospital of Integrated Traditional Chinese and Western Medicine	1. Xinhua affiliated hospital, Hubei University of Chinese Medicine; 2. Hubei Provincial Hospital of Integrated Chinese and Western Medicine	A Randomized Controlled Study on the Effects of Tai Chi on the Pulmonary Function and Quality of Life in Patients with Novel Coronavirus Pneumonia (COVID-19)	The effect of shadowboxing for pulmonary function and quality of life in patients with 2019-nCoV pneumonia (novel coronavirus pneumonia, NCP) in rehabilitation period	2/2/2020

WHAT WAS THAT ABOUT NOT OPEN

275	ChiCTR2000030293	2/27/2020	Shanghai Public Health Clinical Center	Shanghai Public Health Clinical Center	Clinical Observation and Research Plan for Patients with Novel Coronavirus Pneumonia (COVID-19)	Clinical observation and research plan of novel coronavirus pneumonia (COVID-19) patients	3/1/2020
276	ChiCTR2000030300	2/28/2020	Nanjing Second Hospital	Nanjing Second Hospital	Withdrawal of umbilical cord mesenchymal stem cells (hucMSCs) for the treatment of high-risk patients with new coronavirus pneumonia (COVID-19)	Umbilical cord mesenchymal stem cells (hucMSCs) in the treatment of high risk novel coronavirus pneumonia (COVID-19) patients	2/20/2020
277	ChiCTR2000030304	2/28/2020	The Third Affiliated Third Hospital of Sun Yat-sen University	The Third Affiliated Hospital of Sun Yat-sen University	Study on the protective factors of psychological resilience of clinical first-line nurses of new coronavirus pneumonia (COVID-19)	Protective factors of mental resilience in first-line nurses with novel coronavirus pneumonia (COVID-19)	3/10/2020
278	ChiCTR2000030305	2/28/2020	The Fourth Affiliated Hospital of Zhejiang University School of Medicine	The Fourth Affiliated Hospital of Zhejiang University School of Medicine	Multi-omics research and emergency plan optimization of spleen-invigorating and dampness-removing combined with anti-viral treatment of new coronavirus pneumonia (COVID-19)	Multiomics study and emergency plan optimization of spleen strengthening clearing damp and stomach therapy combined with antiviral therapy for novel coronavirus pneumonia (COVID-19)	3/9/2020
279	ChiCTR2000030306	2/28/2020	Shenzhen University Luohu Hospital Group Medical Center	Luohu hospital group medical center of Shenzhen University	Withdraw the asymptomatic insidious new coronavirus pneumonia (COVID-19) virus inducing immune escape mechanism and vaccine development through envelope protein	Cancelled Mechanism of novel coronavirus pneumonia (COVID-19) virus with silent latent immune system induced by envelope protein and vaccine development	3/19/2020
280	ChiCTR2000030312	2/28/2020	The First People's Hospital of Jiangxia District, Wuhan	First People's Hospital of Jiangxi District	An open, single-arm, single-center clinical study evaluating the effectiveness and safety of anti-SARS-CoV-2 virus inactivated plasma in the treatment of patients with new coronavirus infection pneumonia (COVID-19)	A single-center, open-label and single arm trial to evaluate the efficacy and safety of anti-SARS-CoV-2 inactivated convalescent plasma in the treatment of novel coronavirus pneumonia (COVID-19) patient	2/29/2020
281	ChiCTR2000030314	2/28/2020	Xiangyang Central Hospital, Affiliated Hospital of Hubei University of Arts and Science	Xiangyang Central Hospital, Affiliated Hospital of Hubei University of Arts and Sciences	Application of Maxing Shigan Decoction and Shengjiang Powder in Children with Novel Coronavirus Pneumonia (COVID-19)	Traditional Chinese medicine Ma-Xing-Shi-Gan-Tang and Sheng-Jiang-San in the treatment of children with novel coronavirus pneumonia (COVID-19)	2/28/2020
282	ChiCTR2000030315	2/28/2020	Affiliated Hospital of Changchun University of Traditional Chinese Medicine	Affiliated Hospital of Changchun University of traditional Chinese Medicine	Clinical evaluation study of integrated traditional Chinese and western medicine intervention for new coronavirus pneumonia (COVID-19)	Clinical Study for Traditional Chinese Medicine in the Prevention and Treatment of Novel Coronavirus Pneumonia (COVID-19)	1/1/2020
283	ChiCTR2000030317	2/28/2020	West China Hospital of Sichuan University	West China Hospital, Sichuan University	Clinical study of a new type of "gastroscope isolation mask" during the novel coronavirus pneumonia (COVID-19) epidemic	Clinical study for a new type of Gastroscope isolation mask for preventing and controlling the novel coronavirus pneumonia (COVID-19) Epidemic period	3/1/2020
284	ChiCTR2000030322	2/28/2020	Xinyang Central Hospital	Xinyang Central Hospital	Identification and clinical treatment of critical and severe patients with novel coronavirus pneumonia (COVID-19)	Identification and Clinical Treatment of Severe novel coronavirus pneumonia (COVID-19) Patients	2/1/2020
285	ChiCTR2000030324	2/28/2020	Xiangyang Central Hospital, Affiliated Hospital of Hubei University of Arts and Science	Xiangyang Central Hospital, Affiliated Hospital of Hubei University of Arts and Sciences	Application of "Zang-Fu Acupuncture" TCM Tuina in Children with Novel Coronavirus Pneumonia (COVID-19)	Traditional Chinese Medicine'Zang-Fu Point-pressing' massage for children with novel coronavirus pneumonia (COVID-19)	2/28/2020
286	ChiCTR2000030325	2/28/2020	Xiangyang Central Hospital, Affiliated Hospital of Hubei University of Arts and Science	Xiangyang Central Hospital, Affiliated Hospital of Hubei University of Arts and Sciences	Investigation of mental health of first-line medical and nursing care	A survey for mental health of first-line medical providers and to action of crisis intervention model for novel coronavirus onia (COVID-19) in Xiangyang	2/28/2020
287	ChiCTR2000030327	2/28/2020	The Second Affiliated Hospital of Anhui Medical University	The Second Affiliated hospital of Anhui Medical Univers		is of clinical characteristics of novel coronavirus onia (COVID-19)	1/21/2020
288	ChiCTR2000030328	2/28/2020	Union Hospital, Tongji Medical College, Huazhong University of Science and Technology	Union Hospital, Tongji Medical College, Huazhong Univ Science & Technology		d application of inhaled acetylcysteine solution in the ent of novel coronavirus pneumonia (COVID-19)	3/2/2020
289	ChiCTR2000030329	2/28/2020	The Second Affiliated Hospital of Xi'an Medical College	The Second Affiliated Hospital of Xi'an Medical Universi		d trial for umbilical cord blood CIK and NK cells in the ent of mild and general patients infected with novel virus pneumonia (COVID-19)	3/5/2020
290	ChiCTR2000030330	2/28/2020	The First Affiliated Hospital of University of Science and Technology of China (Anhui Provincial Hospital)	The First Affiliated Hospital of University of science and of China (Anhui Provincial Hospital)	motor function of new coronavirus pneumonia (COVID-19)	d research of 6-minute walk training on motor function of novel coronavirus pneumonia (COVID-19)	2/28/2020
291	ChiCTR2000030331	2/29/2020	The First Affiliated Hospital of University of Science and Technology of China	The First Affiliated Hospital of University of science and technology of China (Anhui Provincial Hospital)	New coronavirus pneumonia (COVID-19) case follow-up cohort project	Construction of a Bio information platform for novel coronavirus pneumonia (COVID-19) patients follow-up in Anhui	2/1/2020
292	ChiCTR2000030333	2/29/2020	Huazhong University of Science Tongji Hospital, Tongji Medical College	Tongji Hospital of Tongji Medical College, Huazhong Science and Technology University	A randomized, open, blank controlled study on the efficacy and safety of pirfenidone in the treatment of severe and critical patients with Wuhan novel coronavirus infection (COVID-19)	A randomized, open-label controlled trial for the efficacy and safety of Pirfenidone in patients with severe and critical novel coronavirus pneumonia (COVID-19)	3/4/2020
293	ChiCTR2000030334	2/29/2020	School of Life Sciences, Xianlin Campus, Nanjing University/Nanjing Second Hospital	College of Life Sciences, Xianlin Campus, Nanjing University/Nanjing Second Hospital	Research on Novel Coronavirus MicroRNA (COVID-19) as a Marker for Early Diagnosis of Infection	microRNA as a marker for early diagnosis of novel coronavirus infection (COVID-19)	2/19/2020
294	ChiCTR2000030363	2/29/2020	Huazhong University of Science Tongji Hospital, Tongji Medical College	Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology	Study on the epidemiology, clinical features and treatment outcome of novel coronavirus infection in children (COVID-19)	Novel Coronavirus Infected Disease (COVID-19) in children: epidemiology, clinical features and treatment outcome	2/23/2020
295	ChiCTR2000030381	2/29/2020	The First People's Hospital of Jiangxia District, Wuhan	First people's hospital of Jiangxi district, Wuhan	Withdrawal of a randomized, open, controlled, single-center clinical study evaluating the effectiveness and safety of anti-SARS-CoV-2 virus inactivated plasma in the treatment of patients with new coronavirus infection pneumonia (COVID-19)	A randomized, open-label, controlled and single-center trial to evaluate the efficacy and safety of anti-SARS-CoV-2 inactivated convalescent plasma in the treatment of novel coronavirus pneumonia (COVID-19) patient	2/29/2020

Construction and application of non-contact doctor-patient

file name -- ican-v-fda

FACTS

I. Background

9. The first vaccine for COVID-19 to begin trials in the United States is mRNA-1273.[3] This experimental vaccine is being developed by NIAID, the NIH institute directed by Dr. Fauci,

[3] *See* https://www.nih.gov/news-events/news-releases/nih-clinical-trial-investigational-vaccine-covid-19-begins.

along with a biotechnology company, Moderna Inc.[4]

10. The first vaccine for COVID-19 to begin trials in the United States is mRNA-1273.[5] This experimental vaccine is being developed by NIAID, the NIH institute directed by Dr. Fauci, along with a biotechnology company, Moderna Inc.[6]

11. NIAID used taxpayer dollars to sponsor, assume responsibility for, and perform the first clinical trial for the mRNA-1273 vaccine.[7] Likewise, NIAID's parent department, the Department of Health and Human Services ("**HHS**"), awarded $483 million to accelerate development of mRNA-1273, including to "fund the development of mRNA-1273 to FDA licensure and manufacturing process scale-up to enable large-scale production in 2020 [before licensure is granted]."[8]

14. Because of the federal government's intimate involvement in developing mRNA-1273 and its support of this product, information regarding this potential COVID-19 vaccine is a matter of immediate concern to the American public. Indeed, news articles have widely reported about this vaccine.[19] Dr. Fauci has widely discussed this potential product in the media.[20] Moderna has similarly released press releases regarding this product, including announcing a secondary offering of $1,250,000,000 on the same day it released preliminary results from mRNA-1273's initial trial conducted by NIAID.[21]

,774&RS=344,774; https://www.ott.nih.gov/technology/e-234-2016.

[12] *See* https://www.nih.gov/news-events/news-releases/nih-clinical-trial-investigational-vaccine-covid-19-begins.

[13] https://www.niaid.nih.gov/research/barney-graham-md-phd.

[14] https://www.niaid.nih.gov/research/pathogenar-module-influenza-universal-vaccine.

[15] *See* https://www.niaid.nih.gov/research/barney-graham-md-phd.

[16] *See* https://ned.nih.gov/search/ViewDetails.aspx?NIHID=0012686509.

[17] *See* https://ned.nih.gov/search/ViewDetails.aspx?NIHID=0012508859.

[18] *See* https://ned.nih.gov/search/ViewDetails.aspx?NIHID=2002358423.

[19] *See* https://www.nih.gov/news-events/news-releases/nih-clinical-trial-investigational-vaccine-covid-19-begins; https://science.sciencemag.org/content/early/2020/02/19/science.abb2507/tab-pdf?versioned=true; https://time.com/5835785/moderna-coronavirus-vaccine-phase-2/; https://www.businesswire.com/news/home/20200427005839/en/Moderna-Announces-IND-Submitted-U.S.-FDA-Phase; https://www.cnbc.com/2020/05/07/fda-approves-moderna-vaccine-candidate-for-phase-2-study.html; https://www.modernatx.com/modernas-work-potential-vaccine-against-covid-19; https://www.nytimes.com/2020/05/07/health/coronavirus-vaccine-moderna.html.

[20] *See, e.g.,* https://www.cnn.com/2020/05/22/investing/moderna-coronavirus-vaccine-stock-sales/index.html ("Although the numbers were limited, it was quite good news because it reached and went over an important hurdle in the development of vaccines.").

12. HHS has also granted those developing and those who will sell this product broad immunity from liability for injuries.[9]

13. Furthermore, a number of NIAID employees are listed as inventors on two patents relating to the development of mRNA-1273. [10] The first is patent application number 62/412,703 titled *Prefusion Coronavirus Spike Proteins and Their Use*[11] and the second is patent application

[4] *See* https://www.nih.gov/news-events/news-releases/nih-clinical-trial-investigational-vaccine-covid-19-begins.
[5] *See* https://www.nih.gov/news-events/news-releases/nih-clinical-trial-investigational-vaccine-covid-19-begins.
[6] *See* https://www.nih.gov/news-events/news-releases/nih-clinical-trial-investigational-vaccine-covid-19-begins.
[7] *See* https://clinicaltrials.gov/ct2/show/NCT04283461; https://projectreporter.nih.gov/project_info_history.cfm?aid=10110093&icde=49376321; https://projectreporter.nih.gov/project_info_description.cfm?aid=9872016&icde=49376321.
[8] https://www.modernatx.com/modernas-work-potential-vaccine-against-covid-19; https://investors.modernatx.com/node/8671/pdf.
[9] *See* https://www.phe.gov/Preparedness/legal/prepact/Pages/default.aspx.
[10] *See* https://science.sciencemag.org/content/early/2020/02/19/science.abb2507/tab-pdf?versioned=true (see "Competing interests" on page 4).
[11] *See* http://appft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=1&f=G&l=50&d=PG01&S1=344,774&OS=344