September 8-16, 2020

A Timeline of Selected Federal Funding for SARS Coronavirus

Over the past two decades, M·CAM has been monitoring possible violations of the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous, or other Gases, and of Bacteriological Methods of Warfare (the Geneva Protocol) 1972 Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxin Weapons and Their Destruction (the BTWC). In its 2003-2004 ***Global Technology Assessment: Vector Weaponization*** we identified M·CAM highlighted China's growing involvement in Polymerase Chain Reaction (PCR) technology with respect to joining the world stage in chimeric construction of viral vectors. Since that time, on a weekly basis, we have monitored the development of research and commercial efforts in this field, including, but not limited to, the research synergies forming between the United States Centers for Disease Control and Prevention (CDC), the National Institutes for Allergies and Infectious Diseases (NIAID), the University of North Carolina at Chapel Hill, Harvard University, Emory University, Vanderbilt University, Tsinghua University, University of Pennsylvania, and their commercial affiliations.

We noted the unusual patent prosecution efforts of the CDC, when on April 25, 2003 they sought to patent the SARS coronavirus that had reportedly transferred to humans during the 2002-2003 SARS outbreak in Asia. 35 U.S.C. §101 prohibits patenting nature. This legality did not deter CDC in their efforts. Their application, updated in 2007, ultimately issued as U.S. Patent 7,776,521 and constrained anyone not licensed by their patent from developing tests or kits to measure SARS coronavirus in humans. Work associated with this virus by their select collaborators included considerable amounts of chimeric engineering, gain-of-function studies, viral characterization, detection, treatment (both vaccine and therapeutic intervention), and weaponization inquiries.

We noted that gain-of-function specialist, Dr. Ralph Baric, was both the recipient of millions of dollars of U.S. research grants from several federal agencies but also sat on the World Health Organization's International Committee on Taxonomy of Viruses (ICTV) and the *Coronaviridae* Study Group (CSG). In this capacity, he was both responsible for determining "novelty" of clades of virus species but directly benefitted from determining declarations of novelty in the form of new research funding authorizations and associated patenting and commercial collaboration. Together with CDC, NIAID, WHO, academic and commercial parties (including Johnson & Johnson; Sanofi and their several coronavirus patent holding biotech companies; Moderna; Ridgeback; Gilead; Sherlock Biosciences; and, others), a powerful group of interests constituted what we would suggest are "interlocking directorates" under U.S. anti-trust laws.

These entities also were affiliated with the WHO's Global Preparedness Monitoring Board (GPMB) whose members were instrumental in the Open Philanthropy-funded global coronavirus pandemic "desk-top" exercise EVENT 201 in October 2019. This event, funded by the principal investor in Sherlock Biosciences and linking interlocking funding partner, the Bill and Melinda Gates Foundation into the GPMB mandate for a respiratory disease global preparedness exercise to be completed by September 2020 alerted us

to anticipate an "epidemic" scenario. We expected to see such a scenario emerge from Wuhan or Guangdong China, northern Italy, Seattle, New York or a combination thereof, as Dr. Zhengli Shi and Dr. Baric's work on zoonotic transmission of coronavirus identified overlapping mutations in coronavirus in bat populations located in these areas.

Coronavirus Anti-trust Foundations

1984 Dr. Anthony Fauci appointed Director of the NIAID

1986-1990 NIAID Grant AI 23946 leading to patent U.S. 7,279,327 "Methods for Producing Recombinant Coronavirus" Filed 2002 and issued 2007 https://patents.google.com/patent/US7279327B2/ru

This is the first documented commerce association between Dr. Anthony Fauci, NIAID and Dr. Ralph Baric's recombinant coronavirus enterprise and constitutes the origin of the alleged criminal conspiracy. 15 USC §1-3

The paper first published from the NIAID grant is https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC7109931&blobtype=pdf

1990 Pfizer files U.S. Patent 6,372,224 on a vaccine for the *S*-protein on coronavirus November 14, 2000 which was abandoned April 2010 making it public domain.

1990s Work focused on CoV association with cardiomyopathy (see above)

Early reference to the "emergence" of CoV as a ***respiratory pathogen*** in https://link.springer.com/content/pdf/10.1007%2F978-1-4615-1899-0_91.pdf

2000 Ralph Baric AI23946 and GM63228 from the National Institutes of Health actively working recombinant CoV.

NIAID and Baric monopolize and conspire to monopolize recombinant coronavirus by entering into a contract using NIH funds for the purpose of restraining trade on coronavirus. 15 USC §1-3

2001 National Institute of Health, Allergy and Infectious diseases. "Reverse Genetics with a Coronavirus Infectious cDNA Construct." 4/1/2001-3/31/005 $1.0 million total costs/yr. RS Baric, PI

2002 Asia CoV SARS outbreak

2003 April 25, 2003 CDC Patent filed and ultimately becomes US7,220,852 (the patent on the RNA sequence) and 7,776,521 (the patent on the testing methodology. These patents give the U.S. Department of Health and

Human Services the ability to control the commercial exploitation of SARS coronavirus.

With their patent filing, CDC enters the conspiracy to restrain interstate trade. The '852 patent application was rejected as unpatentable but was allowed in 2007 after having the rejection appealed and overturned provided that the CDC "inventors" acknowledged that they provided an enabling disclosure that placed the genome of SARS coronavirus in the public domain prior to filing their patent application. 15 USC §1-3

Dr. Anthony Fauci appointed to the Bill and Melinda Gates Foundation's Global Grand Challenges Scientific Advisory Board (served through 2010).

In violation of 15 USC §19, Dr. Fauci has an interlocking directorate violation as NIAID, NIH, and World Health Organization all share common commercial activities.

April 28, 2003 Sequoia Pharmaceuticals $953K for pathogen response and patent US7,151,163 https://www.sbir.gov/node/305319

July 21, 2003 Ralph Baric's team (using AI23946 and GM63228) file U.S. Patent 7,618,802 which issued on November 17, 2009. https://patents.google.com/patent/US7618802B2

Dana Farber Cancer Institute files U.S. Patent 7,750,123 on a monoclonal antibody to neutralize SARS CoV. This research is supported by several NIH grants including National Institutes of Health Grants A128785, A148436, and A1053822.

2004 January 6, 2004 – ***SARS and Bioterrorism linked*** at Bioterrorism and Emerging Infectious Diseases: antimicrobials, therapeutics and immune modulators. https://tks.keystonesymposia.org/index.cfm?e=web.meeting.program&meetingid=706

At this conference, the term "The New Normal" was introduced by Merck

FAUCI AND BARIC start making money!!! National Institutes of Health, Allergy and Infectious Diseases. SARS Reverse Genetics. AI059136-01. $1.7 million total costs, RS Baric, PI. 10% effort. 4/1/04- 3/31/09. The project develops a SARS-CoV full length infectious cDNA, the development of SARS-CoV replicon particles expressing heterologous genes, and seeks to adapt SARS-CoV to mice, producing a pathogenic mouse model for SARS-CoV infection.

National Institutes of Health, Allergy and Infectious Diseases. R01. Remodeling the SARS Coronavirus Genome Regulatory Network. RS Baric, PI 10% effort. 7/1/04-6/30/09. $2.1 million

November 22, 2004 University of Hong Kong patents SARS associated spike protein on CoV and pursues patent US7,491,489

2005 DARPA gets in on the game Synthetic Coronaviruses. Biohacking: Biological Warfare Enabling Technologies, June 2005. Washington, DC. DARPA/MITRE sponsored event. Invited Speaker

Grab timeline from https://www.youtube.com/watch?v=rO_EeYB0i0U and https://www.davidmartin.world/wp-content/uploads/2020/04/20APRBotWslides.pdf

2008 Biodefense Grant U54 AI057157 commences with $10,189,682 to UNC Chapel Hill https://taggs.hhs.gov/Detail/AwardDetail?arg_awardNum=U54AI057157&arg_ProgOfficeCode=104

This is when the colluding parties commence market allocation by providing "non-competitive" grants from NIAID to Dr. Baric's lab at the same time as Dr. Baric in violation of 15 USC §8.

2009 Biodefense Grant U54 AI057157 continues with $5,448,656 to UNC Chapel Hill (non-competitive grant from NIAID)

Violation of 15 USC §8.

2010 Biodefense Grant U54 AI057157 continues with $8,747,142 to UNC Chapel Hill (non-competitive grant from NIAID)

Violation of 15 USC §8.

Patent issuance for SARS coronavirus patents peak post the Asia outbreak at 391 issued patents.

August 6, 2010, Moderna (prior to its establishment) files U.S. Patent 9,447,164 which attracted the investment of (and "inventorship" for) venture capitalists at Flagship Ventures. This patent grew out of the work of Dr. Jason P. Schrum of Harvard Medical School supported by National Science Foundation Grant #0434507. While the application claims priority to August 2010, the application didn't get finalized until October, 2015. On November 4, 2015, the USPTO issued a non-final rejection on this original patent rejecting all claims.

https://www.nsf.gov/awardsearch/showAward?AWD_ID=0434507 with reference to the grant funding in https://molbio.mgh.harvard.edu/szostakweb/publications/Szostak_pdfs/Schrum_et_al_JACS_2009.pdf

2011 Crucell joined the Janssen Pharmaceutical Companies of Johnson & Johnson in February taking with it all of its SARS technology.

Biodefense Grant U54 AI057157 continues with $7,344,820 to UNC Chapel Hill (non-competitive grant from NIAID)

Violation of 15 USC §8.

2012 MERS isolated in Egypt

Biodefense Grant U54 AI057157 continues with $7,627,657 to UNC Chapel Hill (non-competitive grant from NIAID)

Violation of 15 USC §8.

2013 Biodefense Grant U54 AI057157 continues with $7,226,237 to UNC Chapel Hill (non-competitive grant from NIAID)

Violation of 15 USC §8.

Dr. Richard Whitely, member of the Board of Directors of Gilead Sciences (the beneficial licensee of Dr. Baric's compound for the treatment of coronavirus – Remdesivir), Dr. Baric, and NIAID form the Center for Translational Research. Four university research formed the Centers of Excellence for Translational Research, a program focused on "countering threats from emerging and re-emerging infectious diseases." The five year grant of $79 million was divided with $37.5 million going to Whitley's Antiviral Drug Discovery and Development Center at UAB with the balanced divided among Columbia University, Vanderbilt University and the University of North Carolina Chapel Hill.
According to Whitely, "When I built the NIAID grant, I decided an important component would be to have a relationship with a pharmaceutical company that could help us develop the drugs that we discovered. I made Gilead Sciences our pharmaceutical colleague in a public-private partnership. At the time, they were screening for drugs to treat respiratory syncytial virus, and the drug that came up as active was remdesivir. They were screening the drug against many viruses as well, including Ebola and coronaviruses. I suggested they give it to us so we could study it in our coronavirus project that was led by Mark Denison at Vanderbilt University and Ralph Baric at the University of North Carolina."

"AD3C provided data from the Denison and Baric laboratories to Gilead, and that led to clinical investigations." Remdesivir, initially designed to treat MERS was suggested to be effective in treating SARS. Whitley stated that he was concerned that both MERS and SARS "not only could come back, but be imported into the U.S."

Violation of 15 USC §1-3, 8, 19.

2014 April 23, 2014, Moderna files patent on nucleic acid vaccine with Patents US9872900 and US10022435

2015 Moderna signs a vaccine development agreement with NIAID and executes it with the lead on the mRNA-1273 lead developer and inventor Guiseppe Ciaramella. https://www.documentcloud.org/documents/6935295-NIH-Moderna-Confidential-Agreements.html

2016 NIH through Scripps Institute and Dartmouth College file patent application WO 2018081318A1 "Prefusion Coronavirus Spike Proteins and their Use" disclosing mRNA technology that overlaps (and is used in tandem with) Moderna's technology. https://patents.google.com/patent/WO2018081318A1/en Lead Inventor Barney Scott Graham was well known to Moderna as he's the person at NIH that Moderna "e-mailed" to get the sequence for SARS CoV-2 according to Moderna's report here (*"In January 2020, once it was discovered that the infection in Wuhan was caused by a novel coronavirus, Bancel quickly emailed Dr. Barney Graham, deputy director of the Vaccine Research Center at the National Institutes of Health, asking him to send the genetic sequence for the virus."*) https://www.wsws.org/en/articles/2020/05/26/vacc-m26.html In addition, co-inventor Jason McLellan worked with Graham on a vaccine patent jointly owned with the Chinese government filed in Australia in 2013 https://patents.google.com/patent/AU2014231357A1/en?inventor=Jason+MCLELLAN.

2017 August – Sanofi buys Protein Science Corp with considerable SARS patent holdings

2018 June – Sanofi buys Ablynx with considerable SARS patent holdings

2019 March, https://wyss.harvard.edu/news/sherlock-biosciences-licenses-wyss-technology-to-create-affordable-molecular-diagnostics/ funded by Open Philanthropy

September – Fauci and Dr. Chris Elias sit on the Global Preparedness Monitoring Board for the WHO stipulating the need to have a global exercise on the accidental or intentional release of a respiratory pathogen *by September 2020*. Violation of 15 USC § 19.

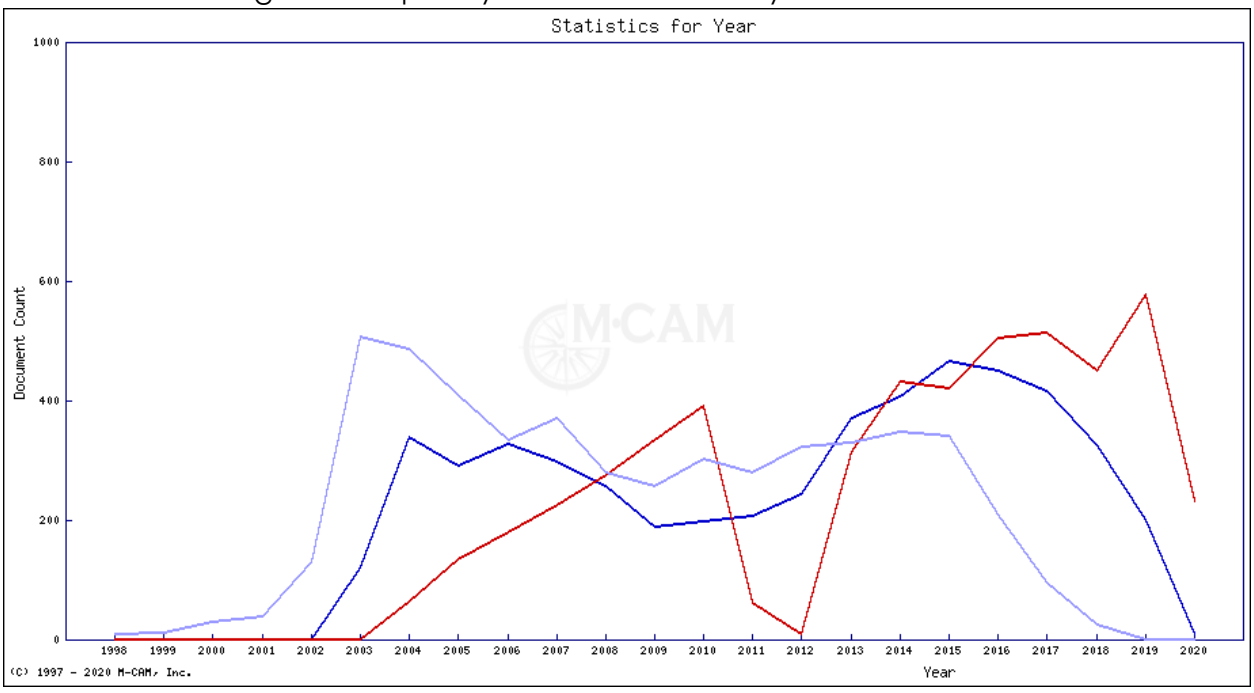
2020 February - Fauci, Baric, and others lament the absence of funding for coronavirus research and highlight the need to have the public see the gravity of their commercial interest.

"*Scientists who have applied for funding to study coronaviruses say that they feel more pressure to explain why their research is relevant after an outbreak has ended. Those in the field knew that there was much more to be gleaned about the coronaviruses that already circulate in humans — and that a new coronavirus could start making people sick at any time.*" https://www.statnews.com/2020/02/10/fluctuating-funding-and-flagging-interest-hurt-coronavirus-research/

This statement was misleading as Dr. Baric's lab had received million of dollars of non-competitive awards from NIAID without the requirement to "apply" for such funds.

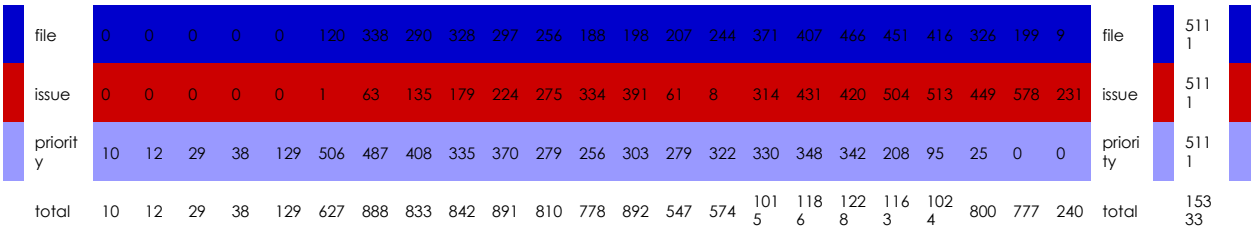
February – Baric sits on the WHO International Committee on Taxonomy of Viruses allowing him to declare "novel" the virus his lab participated in isolating in Violation of 15 USC § 19.

Over 5000 patents and patent applications have included reference to SARS Coronavirus dating back to priority dates of 1998. They are summarized below.



1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	total

September 8-16, 2020



On July 23, 2020, the Patent Trial and Appeal Board of the United States Patent and Trademark Office rejected Moderna's efforts to invalidate U.S. Patent 8,058,069. This patent, owned by Arbutus Biopharma Corp (principally owned by Roivant Science Ltd), covers the lipid nanoparticle (LNP) required to deliver an mRNA vaccine. Some of the core technology was based on work originally done at the University of British Columbia and was first licensed in 1998.

mRNA-1273 – the experimental vaccine developed by Moderna for COVID-19 – uses the LNP technology that Moderna thought it had licensed from Acuitas Therapeutics Inc., a firm developed by a former principal of Arbutus' prior company Tekmira. That license did not authorize Moderna to use the technology for the COVID-19 vaccine.

M·CAM and Knowledge Ecology International have independently confirmed that Moderna has violated U.S. law in failing to disclose the U.S. government's funding interest in their patents and patent applications. While this negligence impacts all of Moderna's over 130 granted U.S. patents, it is particularly problematic for U.S. Patent 10,702,600 ('600) which is the patent relating to, "a messenger ribonucleic acid (mRNA) comprising an open reading frame encoding a betacoronavirus (BetaCoV) S protein or S protein subunit formulated in a lipid nanoparticle." The specific claims addressing the pivot to the SARS Coronavirus were patented ***on March 28, 2019 – 9 months before the SARS CoV-2 outbreak!*** Both the patent and the DARPA funding for the technology were disclosed in scientific publication (*New England Journal of Medicine*) but the government funds were not acknowledged in the patent.

In 2013, the Autonomous Diagnostics to Enable Prevention and Therapeutics (ADEPT) program awarded grant funding to Moderna Therapeutics for the development of a new type of vaccine based on messenger RNA. The initial DARPA grant was W911NF-13-1-0417. ***The company used that technology to develop its COVID-19 vaccine, currently undergoing Phase I clinical trials in conjunction with NIH*** (https://crsreports.congress.gov/product/pdf/IN/IN11446).

Under the Federal Acquisition Regulation (FAR) rules, contractor to the Federal Government must provide information regarding intellectual property infringement issues as part of their contract. Under FAR §27.201-1(c) and (d), the Government both requires a notice of infringement or potential infringement as well as retention of economic liability for patent infringements. Specifically, in FAR §52.227.3 (a), the "Contractor shall indemnify the Government and its officers, agents, and employees against liability, including costs for infringement of any United States Patent…". In

addition to the patents cited by the USPTO in their examination of '600, M·CAM has identified fourteen other issued patents preceding the '600 patent which were used by patent examiners to limit patents arising from the same funded research including patents sought by CureVac.

In short, while Moderna enjoys hundreds of millions of dollars of funding allegiance and advocacy from Anthony Fauci and his NIAID, since its inception, it has been engaged in illegal patent activity and demonstrated contempt for U.S. Patent law. To make matters worse, the U.S. Government has given it financial backing in the face of undisclosed infringement risks potentially contributing to the very infringement for which they are indemnified.

Modrena's U.S. Patent 10,702,600 and U.S. Patent 10,702,599 share reference to this language:

Severe acute respiratory syndrome (SARS) emerged in China in 2002 and spread to other countries before brought under control. **Because of a concern for reemergence or a deliberate release of the SARS coronavirus, vaccine development was initiated (emphasis added).**

US10702600B1
http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=10702600.PN.&OS=PN/10702600&RS=PN/10702600

March 2019 reference to the "deliberate release" of SARS:
Application 16/368,270 and these four other applications:

20190240317	HPIV3 RNA VACCINES
20190216917	HMPV RNA VACCINES
20180326045	COMBINATION PIV3/HMPV RNA VACCINES
20170340725	COMBINATION PIV3/HMPV RNA VACCINES

On March 28, 2019 (9 months before the SARS outbreak), Moderna altered a rejected patent application in which they stated that vaccine development for SARS coronavirus was initiated based on concern for a "deliberate release of SARS coronavirus". Since 2010, Moderna has known that other companies own the patent on lipid nanoparticles (LNP) required to deliver the vaccine. Given Moderna's over 130 cases of violating the law in their patent filing and given their executives' stock sales,

there is reason to be concerned that Dr. Anthony Fauci is setting up President Trump for a patent infringement injunction on the eve of the vaccine approval. Dr. Fauci has been promoting a vaccine that clearly violates the Federal Acquisition Regulations and he's likely known it since the company's IPO in 2018.

September 8-16, 2020

Ralph Baric – Gilead Remdesivir

Mark Denison

Richard Whitely – Gilead Remdesivir
Moleculin https://ir.moleculin.com/press-releases/detail/167/moleculin-announces-head-of-niaid-antiviral-drug-discovery
Shaman https://www.sfgate.com/business/article/Shaman-Pharmaceuticals-antiviral-drug-scores-well-3124769.php