Moderna: Hacking The Software Of Life With mRNA Injections

Description

Originally named ModeRNA, Moderna is a cesspool of transhuman thought: *“We are actually hacking the software of life. We think about it as an operating system. So if you could actually change that, if you could introduce a line of code, or change a line of code, it turns out it has profound implications for everything.” (Tal Zaks, former CMO) ? TN Editor*

Not-So-Humble Beginnings

Moderna, the producers of the mRNA-1273/Spikevax vaccine, are the ones principally responsible for the development of the mRNA transfection tech currently used in various COVID-19 vaccines.

The seed of the idea that would germinate into Moderna was planted in 2005, when Derrick Rossi read a paper written by Hungarian scientist Katalin Karikó on how nucleoside-modified mRNA could be made to evade human immune responses from toll-like receptors.

According to this paper, using pseudouridine in place of uridine allows foreign mRNA to escape detection by TLR7/8.

Toll-like receptors are a type of PRR, or pattern-recognition receptor, the smoke alarms of human (and other mammalian) cells. Their purpose is to detect molecular signs of damage or foreign objects (DAMPs and PAMPs) and induce an inflammatory response.

The innate immune system employs germline-encoded pattern-recognition receptors (PRRs) for the initial detection of microbes. PRRs recognize microbe-specific molecular signatures known as pathogen-associated molecular patterns (PAMPs) and self-derived molecules derived from damaged cells, referred as damage-associated molecules patterns (DAMPs). PRRs activate downstream signaling pathways that lead to the induction of innate immune responses by producing inflammatory cytokines, type I interferon (IFN), and other mediators. These processes not only trigger immediate host defensive responses such as inflammation, but also prime and orchestrate antigen-specific adaptive immune responses (1). These responses are essential for the clearance of infecting microbes

as well as crucial for the consequent instruction of antigen-specific adaptive immune responses.

Mammals have several distinct classes of PRRs including Toll-like receptors (TLRs), RIG-I-like receptors (RLRs), Nod-like receptors (NLRs), AIM2-like receptors (ALRs), C-type lectin receptors (CLRs), and intracellular DNA sensors such as cGAS (2, 3).

Normally, foreign DNA or RNA triggers an immune response, and with good reason; its presence is often a sign that a pathogen is infiltrating the body. However, this poses a conundrum for scientists who wish to transfect human cells *in vivo* with foreign DNA or RNA for the purpose of gene therapy. What Dr. Karikó's research suggested was that there was a way to "cloak" mRNA from TLRs by substituting nucleoside subunits in those mRNA strands with something else that would not be recognized by those receptors as a constituent of mRNA. In other words, what she proposed was to reduce the immunogenicity of foreign mRNA by rendering them, from the perspective of the body, chemically inert.

Derrick Rossi took an interest in this, immediately seeing the therapeutic potential of nucleoside-modified mRNA. In 2010, he solicited the help of Timothy A. Springer, Robert S. Langer, Kenneth R. Chien, and Noubar Afeyan to form the company ModeRNA Therapeutics.

In 2011, Noubar Afeyan hired Stéphane Bancel, formerly the CEO of bioMérieux, to head up ModeRNA. As mentioned in our previous articles, the founder of bioMérieux, Alain Mérieux, is a personal friend of Xi Jinping and assisted in the construction of the P4 lab at the Wuhan Institute of Virology.

The maximum-level biosafety laboratory at the Wuhan Institute of Virology was the first of its kind to be built in China, and has been the centre of huge speculation since the start of the Covid-19 pandemic which originated in that city. The laboratory, which is equipped to handle Class 4 pathogens (P4) including dangerous viruses such as Ebola, was built with the help of French experts and under the guidance of French billionaire businessman Alain Mérieux, despite strong objections by health and defence officials in Paris. Since the laboratory's inauguration by prime minister Bernard Cazeneuve in 2017, however, France has had no supervisory role in the running of the facility and planned cooperation between French researchers and the laboratory has come to a grinding halt. Karl Laske and Jacques Massey report.

As mentioned in our previous articles, Robert Langer, an expert in nanotech drug delivery at MIT, was a colleague of Charles Lieber, a Harvard bionanotechnology expert who was deeply involved in DARPA-funded research into silicon nanowires, potentially even as the basis for brain-computer interfaces.

In 2011, ModeRNA had already reached unicorn status, with a valuation of over a billion dollars, despite having produced no commercial products of any kind.

Expectations are high. Being a startup valued at more than a billion dollars—an anomaly that venture capitalists dub a unicorn—comes with scrutiny, and many wonder whether Moderna's pipeline, consisting mostly of vaccines for now, will expand to match the company's original vision of mRNA as a broad treatment platform. "There were a lot of really big promises made," says Jason Schrum, a

biotechnology consultant in San Francisco and a former Moderna employee. “That’s what people latched onto; they want the promises to be true, and they want to see the investment really turn it into something meaningful.”

In 2013, ModeRNA and AstraZeneca signed a five-year agreement to develop and commercialize mRNA-based therapies for cardiovascular, metabolic, and renal diseases, as well as cancer. As part of this agreement, AstraZeneca paid $240 million dollars to ModeRNA, despite them, again, having no commercial products nor ongoing drug trials.

Also in 2013, ModeRNA was awarded $25 million from DARPA to develop mRNA-based therapies. Given that DARPA are a military think tank involved in biosecurity/biosurveillance/biodefense, this was an odd fit, considering that ModeRNA were, at the time, engaged in research for cancer therapies and treating chronic illnesses with mRNA, and not mRNA vaccines, which have a clear biodefense purpose (i.e. rapidly vaccinating against bioweapons). ModeRNA are based in Cambridge, Massachusetts. Incidentally, a large portion of the US biodefense network is also situated in the vicinity of Boston, as outlined in Frank L. Smith’s book, *American Biodefense*.

Edward Hammond ran a watchdog group called the Sunshine Project to investigate the massive DOD and HHS investment in biolabs in the 2000s after Amerithrax, as well as the shocking lack of oversight and accountability in these labs. Unfortunately, this group was forced to disband in 2008 due to a lack of funding.

In 2014, Alexion Pharmaceuticals struck a deal with ModeRNA, paying them $100 million to develop treatments for rare diseases, including Crigler-Najjar syndrome. The program was terminated in 2017 after animal testing showed that the therapies would never be safe enough to enter human trials.

In order to protect mRNA molecules from the body’s natural defenses, drug developers must wrap them in a protective casing. For Moderna, that meant putting its Crigler-Najjar therapy in nanoparticles made of lipids. And for its chemists, those nanoparticles created a daunting challenge: Dose too little, and you don’t get enough enzyme to affect the disease; dose too much, and the drug is too toxic for patients.

From the start, Moderna’s scientists knew that using mRNA to spur protein production would be a tough task, so they scoured the medical literature for diseases that might be treated with just small amounts of additional protein.

“And that list of diseases is very, very short,” said the former employee who described Bancel as needing a Hail Mary.

Crigler-Najjar was the lowest-hanging fruit.

Yet Moderna could not make its therapy work, former employees and collaborators said. The safe dose was too weak, and repeat injections of a dose strong enough to be effective had troubling effects on the liver in animal studies.

ModeRNA under Bancel’s leadership was fraught with issues, including high-profile resignations due to the harsh company culture fostered by its CEO. Many employees also found the company’s pivot to vaccine research in 2017 highly questionable from a fiscal perspective, given the status of vaccines as

a loss-leader.

As he pursued a complex and risky strategy for drug development, Bancel built a culture of recrimination at Moderna, former employees said. Failed experiments have been met with reprimands and even on-the-spot firings. They recalled abusive emails, dressings down at company meetings, exceedingly long hours, and unexplained terminations.

At least a dozen highly placed executives have quit in the past four years, including heads of finance, technology, manufacturing, and science. In just the past 12 months, respected leaders of Moderna's cancer and rare disease programs both resigned, even though the company's remarkable fundraising had put ample resources at their disposal. Each had been at the company less than 18 months, and the positions have yet to be filled.

In 2017, ModeRNA tested their mRNA tech on Sprague-Dawley rats and cynomolgus monkeys at Charles River Laboratories' facilities. They found that the mRNA spread well beyond the injection site and was discovered in the liver, spleen, bone marrow, and heart.

The pharmacology, pharmacokinetics, and safety of modified mRNA formulated in lipid nanoparticles (LNPs) were evaluated after repeat intravenous infusion to rats and monkeys. In both species, modified mRNA encoding the protein for human erythropoietin (hEPO) had predictable and consistent pharmacologic and toxicologic effects. Pharmacokinetic analysis conducted following the first dose showed that measured hEPO levels were maximal at 6 hours after the end of intravenous infusion and in excess of 100-fold the anticipated efficacious exposure (17.6 ng/ml) at the highest dose tested.24 hEPO was pharmacologically active in both the rat and the monkey, as indicated by a significant increase in red blood cell mass parameters. The primary safety-related findings were caused by the exaggerated pharmacology of hEPO and included increased hematopoiesis in the liver, spleen, and bone marrow (rats) and minimal hemorrhage in the heart (monkeys). Additional primary safety-related findings in the rat included mildly increased white blood cell counts, changes in the coagulation parameters at all doses, as well as liver injury and release of interferon ?–inducible protein 10 in high-dose groups only. In the monkey, as seen with the parenteral administration of cationic LNPs, splenic necrosis and lymphocyte depletion were observed, accompanied with mild and reversible complement activation. These findings defined a well-tolerated dose level above the anticipated efficacious dose. Overall, these combined studies indicate that LNP-formulated modified mRNA can be administered by intravenous infusion in 2 toxicologically relevant test species and generate supratherapeutic levels of protein (hEPO) in vivo.

In 2018, ModeRNA rebranded themselves as Moderna Inc., and raised $621 million through their IPO by the end of that year.

Through the end of 2019, Moderna had accumulated losses of $1.5 billion dollars over the course of the company's history.

Paradoxically, they continued to excite investors.

Very shortly after China sent the sequence for 2019-nCoV – which would eventually become known as SARS-CoV-2 – on January 11th, 2020, Moderna claimed to have developed a vaccine within 48 hours of receiving the gene sequence for the virus, on January 13th.

You may be surprised to learn that of the trio of long-awaited coronavirus vaccines, the most promising, Moderna's mRNA-1273, which reported a 94.5 percent efficacy rate on November 16, had been designed by January 13. This was just two days after the genetic sequence had been made public in an act of scientific and humanitarian generosity that resulted in China's Yong-Zhen Zhang's being temporarily forced out of his lab. In Massachusetts, the Moderna vaccine design took all of one weekend. It was completed before China had even acknowledged that the disease could be transmitted from human to human, more than a week before the first confirmed coronavirus case in the United States. By the time the first American death was announced a month later, the vaccine had already been manufactured and shipped to the National Institutes of Health for the beginning of its Phase I clinical trial. This is — as the country and the world are rightly celebrating — the fastest timeline of development in the history of vaccines. It also means that for the entire span of the pandemic in this country, which has already killed more than 250,000 Americans, we had the tools we needed to prevent it.

This vaccine was based on Moderna's mRNA technology platform, which consists of nucleoside-modified mRNA contained in PEGylated lipid nanoparticles which are injected into the body, transfect human cells, and cause ribosomes in those cells to translate the foreign mRNA into proteins. Essentially, the point of this technology is to use human cells as bioreactors for therapeutic effect, "brewing" any conceivable protein inside the body using human cells as protein factories.

The mode of action of mRNA-1273/Spikevax, according to Moderna, is to introduce the substance into the deltoid muscle in the subject's shoulder, transfect shoulder muscle cells with the lipid nanoparticles containing nucleoside-modified mRNA, and translate the mRNA into SARS-CoV-2 Spike proteins, thereby inducing those cells to express this protein on their surfaces, promoting an immune response and antibody production against the Spike.

The supposed innovation that enabled a "safe" SARS-CoV-2 mRNA vaccine to be produced was the development of stabilized, proline-substituted Spike proteins, such as 2P or HexaPro.

The COVID-19 pandemic has led to accelerated efforts to develop therapeutics and vaccines. A key target of these efforts is the spike (S) protein, which is metastable and difficult to produce recombinantly. Here, we characterized 100 structure-guided spike designs and identified 26 individual substitutions that increased protein yields and stability. Testing combinations of beneficial substitutions resulted in the identification of HexaPro, a variant with six beneficial proline substitutions exhibiting ~10-fold higher expression than its parental construct and the ability to withstand heat stress, storage at room temperature, and three freeze-thaw cycles. A 3.2 Å-resolution cryo-EM structure of HexaPro confirmed that it retains the prefusion spike conformation. High-yield production of a stabilized prefusion spike protein will accelerate the development of vaccines and serological diagnostics for SARS-CoV-2.

These modifications are intended to lock the Spike in the prefusion conformation.

As Norbert Pardi, an mRNA vaccine scientist at the University of Pennsylvania, puts it, we're "very lucky, actually," that scientists worked out the 2P mutation for a MERS vaccine before the COVID-19 pandemic. "It wouldn't be possible to go so fast with the Moderna vaccine otherwise."

Other companies, including Johnson & Johnson, Novavax, and Pfizer, are hoping the 2P mutation

works for their COVID-19 vaccines too.

The 2P mutation might quite literally be the smallest detail that could make or break the first generation of COVID-19 vaccines. It's an easy enough tweak to add during the early stages of vaccine design. And if successful, 2P-based vaccines may herald a new generation of vaccines whose molecular makeup is fine-tuned to craft a safer, stronger immune response.

Research into 2P Spike existed before the COVID-19 outbreak, with other coronaviruses; it was not an innovation specific to COVID-19 vaccines, but merely repurposed for them.

The conceit here was that the vaccine would stay in the shoulder and would not pose any issues for any of the subject's organs. However, we know from Moderna's prior research (and the leaked Pfizer biodistribution documents) that lipid nanoparticles spread all over the body, affecting the heart, liver, spleen, bone marrow, and other key tissues. Therefore, the notion that the vaccine would remain in the deltoid muscle of the recipient was always a blatant falsehood.

Moderna was able to secure considerable funding from HHS and BARDA under Operation Warp Speed, to develop a COVID-19 vaccine. They pushed the vaccine through highly accelerated trials with a very questionable methodology. Governments signed purchase agreements with these companies that waived their legal liability in case anything went wrong.

In Moderna's case, this is highly alarming, considering that mRNA-1273 is their first-ever commercial product. Imagine if there was a car company that was funded by angel investors and military think tanks for years and years, and the government mandated that everyone in the country must purchase one of these cars on pain of job loss and ostracization if they refuse, and the company producing the cars had no legal liability at all, such that if the wheels fell off and the vehicle flipped over and you broke your neck, you would have no recourse to sue the manufacturer. That's what our governments agreed on with Moderna, for an unsafe gene therapy drug masquerading as a vaccine.

There are many, many issues with these so-called vaccines, with toxicity, long-term side effects, and potential undisclosed ingredients, as outlined in our prior articles on the matter. They should never have been approved by the FDA.

Moderna's timeline does not match up with leaked documents uncovered last year, which indicate that Ralph Baric – a SARS expert at UNC Chapel Hill and a colleague of Shi Zhengli (Baric was also responsible for the testing and validation of Remdesivir) – signed a confidential material transfer agreement on December 12th, 2019, to take delivery of "mRNA coronavirus vaccine candidates developed and jointly-owned by NIAID and Moderna". This is visible on Page 105 of this set of documents:

Moderna Confidential Agreements

Many search results pertaining to Ralph Baric and his involvement in this are censored from Google.

One might argue that this refers to a vaccine for a different coronavirus. If so, why send these materials to Ralph Baric, a SARS expert with links to researchers at the Wuhan Institute of Virology?

If it is, in fact, mRNA-1273 that is the subject of this agreement, then how did Moderna possess foreknowledge of the outbreak in Wuhan? It was on December 30th, 2019 that the unfortunately now-deceased Dr. Li Wenliang tried sounding the alarm about the spread of a new SARS strain in Wuhan, before the Wuhan Police Bureau gagged him.

On December 12th, 2019, *no one* knew there was a highly infectious SARS strain circulating in Wuhan, except perhaps for a select few virus researchers and biodefense network insiders who may have possessed foreknowledge, such as Anthony Fauci, Ralph Baric, Shi Zhengli, Peter Daszak, and others connected to USAID's Global Virome Project. This information may have been passed to Moderna through back channels.

Late last year, a scientist operating under a pseudonym posted a shocking article on their Substack, claiming that SARS-CoV-2 Spike contained a sequence that had, as its reverse complement, a 100% match to a gene sequence found only in a Moderna patented MSH3-mutant cell line.

How to BLAST your way to the truth about the origins of COVID-19

> I've been meaning to write this blog for ever. Well, at least since Prashant Pradhan (a wonderful, honest and brave genomics scientist) raised the possibility back in February 2020 that the SARS-Cov2 virus was man made. And we have seen multiple confirmatory pieces that the virus was made in a lab, one of the better ones here on…
>
> 6 months ago · 231 likes · 354 comments · Dr Ah Kahn Syed

> Igor Chudov has also done a lot of work analyzing this, as well:
>
> **Igor's Newsletter**
>
> Where is CTCCTCGGCGGGCACGTAG in the Moderna Patent
>
> Yesterday, I wrote an article that made rounds on Twitter and substack and generated a tremendous amount of comments. Two astute readers asked me a very reasonable question: where in the Moderna patent 9,587,003, exactly, is something that matches the Sars-Cov-2 sequence CTCCTCGGCGGGCACGTAG…
>
> 4 months ago · 180 likes · 63 comments · Igor Chudov

This is very alarming, and may indicate SARS-CoV-2 arose from a recombination event in a cell line supplied by Moderna.

Stéphane Bancel was questioned on this by Maria Bartiromo:

He appeared very hesitant to answer at all, eventually providing an evasive non-answer.

The most troubling question, here, is why a biotech startup received so much investment over the

course of decade, including investment from the US biodefense network and Pentagon think tanks, despite having no salable commercial products to provide value to their investors, and then, suddenly, they switched gears to vaccine research and production at the eleventh hour.

The existence and persistent funding of Moderna despite a whole decade of commercial failure behind them doesn't make sense. It is as if there was a specific biodefense goal for the usage of mRNA-based therapeutics in mind before the company even existed, and the company was created and funded to pursue that goal.

Moderna's history is essentially one of a US biodefense network front company pretending to engage in exploratory research for cancer and rare disease therapies, and then pulling a bait-and-switch and starting work on vaccines for DARPA and BARDA.

Everything about this company is extremely suspicious, and that's *before* one takes into account Moderna's connections to the WIV through Stéphane Bancel and Alain Mérieux, the presence of a sequence in SARS-CoV-2 the reverse complement of which is a patented Moderna sequence, and Moderna's secretive collaboration with NIAID and Ralph Baric to develop coronavirus mRNA vaccines shortly before the outbreak in Wuhan was reported.

We at ICENI believe that Moderna's actions may form the basis for a massive RICO case. We also believe that a crime of unimaginable proportions took place here, and is still ongoing, involving high-level public officials, intelligence agencies, and their pharma pawns.

The investigation continues. The perpetrators of this criminal conspiracy are not above the law, nor are they beyond the reach of public scrutiny.

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