



Moderna Forms Technology Advisory Board to Provide Expertise for the Company's GMP Manufacturing Strategy

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CAMBRIDGE, Mass., May 21, 2014 —[Moderna Therapeutics](#), the pioneer in developing messenger RNA (mRNA) Therapeutics™, a revolutionary treatment modality to enable the *in vivo* production of therapeutic proteins, announced today the formation of a Technology Advisory Board.

This new Technology Advisory Board will bring together a world-class panel of experts to advise Moderna on building state-of-the-art GMP (Good Manufacturing Practice) manufacturing capabilities to deliver high-quality mRNA Active Pharmaceutical Ingredient (API) for its own clinical programs, and for organizations with which Moderna has strategic agreements. These include AstraZeneca, Alexion Pharmaceuticals and DARPA (the Defense Advanced Research Projects Agency).

The Board will focus initially on scaling the production of mRNA from micrograms to kilograms to full commercial scale, and on ensuring the use of best-in-class purification techniques and analytical tools.

"Moderna's strategy is to own its R&D technology and its API GMP manufacturing," said Stéphane Bancel, President and founding CEO of Moderna. "We are on a path to grow our manufacturing lot size from the micrograms of our early days, to grams today and kilograms tomorrow."

"We will also develop proprietary manufacturing processes to ensure our mRNA is of the highest purity, resulting in a very short manufacturing cycle so we can produce a lot in just days, not weeks," added Bancel. "With the right tools and technology, we can move with unprecedented speed from a drug concept to a first-in-human clinical trial, so we can serve patients faster. This group of world-class experts from academia and industry will complement our talented internal team, providing the right expertise to accomplish this important goal."

The members of the Technology Advisory Board are:

- **Dr. Noubar Afeyan, Ph.D.**, co-founder and chairman of Moderna, managing partner and CEO of Flagship Ventures, founder and CEO of PerSeptive Biosystems, Ph.D. in Biochemical Engineering from M.I.T.
- **Dr. John Aunins, Ph.D.**, executive vice president, CMC, of Seres Health, Inc., former VP of process development at Merck Inc., Ph.D. in Chemical Engineering from M.I.T.
- **Dr. Scott Canute**, former president of manufacturing at Genzyme, former president of manufacturing at Eli Lilly, MBA from Harvard Business School
- **Professor Fred Regnier, Ph.D.**, J.H. Law distinguished professor of chemistry at Purdue University
- **Professor James Swartz, Ph.D.**, professor of chemical engineering at Stanford University, former engineer at Genentech and Eli Lilly
- **Professor Jack Szostak, Ph.D.**, Nobel Prize in Medicine 2009, Howard Hughes medical institute investigator, professor of genetics at Harvard Medical School, and Alex Rich distinguished investigator, Dept. of Molecular Biology and the Center for Computational and Integrative Biology at Massachusetts General Hospital
- **Professor Richard Willson, Ph.D.**, Huffington-Woestemeyer professor in chemical and biomolecular engineering at the University of Houston

For more information on Moderna Therapeutics and potential partnership opportunities, please visit www.modernatx.com.

About Moderna Therapeutics

Moderna is pioneering [messenger RNA Therapeutics™](#), an entirely new *in vivo* drug modality that produces human proteins or antibodies inside patient cells, which are in turn secreted or active intracellularly. This breakthrough platform addresses currently undruggable targets and offers a superior alternative to existing drug modalities for a wide range of disease conditions. Moderna has developed a broad intellectual property estate, including more than 320 patent applications covering novel nucleotide chemistries and drug compositions. The company plans to develop and commercialize its innovative mRNA drugs through a combination of strategic relationships as well as new formed ventures, like [Onkaido LLC](#), its oncology Drug Development Company. Founded by [Flagship Venture Labs](#), Cambridge-based Moderna is privately held and currently has strategic agreements with [AstraZeneca](#) and [Alexion Pharmaceuticals](#). To learn more, visit www.modernatx.com.