# Vir Biotechnology Builds Pipeline, Capabilities, and Lays Out Strategy to Address Serious Infectious Diseases

-- Expands technology and global footprint with acquisition of Humabs BioMed SA
-- Accesses clinical and preclinical stage assets from Alnylam, Visterra
-- Total financing to date exceeds $500 million

**SAN FRANCISCO – October 18, 2017 -** Vir Biotechnology, Inc. today announced agreements with Humabs BioMed SA, Alnylam Pharmaceuticals, Inc. (NASDAQ: ALYN), and Visterra, Inc., as well as four leading academic research institutions. Together with the company's internal research and development capabilities, these achievements provide the foundation on which Vir will pursue its mission of transforming the care of people with serious infectious diseases. To support these efforts, Vir has secured financing to date of more than $500 million.

## Strategic Focus

Vir integrates diverse innovations in science, technology, and medicine to transform the care of people with serious infectious diseases. Vir is taking a multi-program, multi-platform approach to applying these breakthroughs, including the development of treatments that induce protective and therapeutic immune responses. Vir's scale and scope, together with leading scientific and management expertise, allow it to perform significant internal R&D, in-license or acquire innovative technology platforms and assets, and fund targeted academic research.

The company's initial focus is in three areas of significant unmet need: *chronic infectious diseases* including hepatitis B (HBV), tuberculosis (TB), and HIV; *respiratory diseases*, including influenza, respiratory syncytial virus (RSV), and metapneumovirus (MPV); and *health-care acquired infections*.

"Vir is a science-driven company. We are building outstanding internal R&D, which we have coupled with nimble business development, to establish a diversified technology base as well as an exciting pipeline," said George A. Scangos, Ph.D., chief executive officer. "We expect to move several compounds into clinical development in the next 18 months and we have an option to acquire a portion of a Phase 2 compound targeting flu. We also continue to evaluate several near-term opportunities to acquire additional mid- and late-stage clinical compounds, as well as expand our technology base even further. We have hired an experienced management team and built internal technology development capabilities required for the production of biological products. I am pleased that in our first year we have been able to align leading ideas, technology, and expertise focused on transforming the care of people with serious infectious diseases and providing a return to our investors."

## Agreement Details

- Vir has acquired Humabs BioMed SA, a Swiss company focused on discovering and developing fully human monoclonal antibodies to treat serious infections. Humabs' proprietary technology enables the rapid isolation and development of antibodies that have passed natural selection by the human immune system in response to viral and bacterial diseases. The acquisition adds more than 15 antibody development candidates, including promising pre-clinical antibodies for the treatment of HBV, RSV/MPV, Zika, and Dengue, a proprietary antibody discovery platform, and antibody engineering capabilities to Vir's portfolio. Humabs and its employees will continue to operate the Humabs facilities in Bellinzona,

Switzerland and maintain its productive research collaboration with the Institute for Research in Biomedicine.

- Vir and Visterra, Inc. have entered into an exclusive research collaboration, license, and option agreement covering up to six antibodies to treat infectious diseases. Under the agreement, Vir has an option to partner with Visterra on the development and commercialization of VIS410, an antibody currently in Phase 2 clinical trials for the treatment of influenza A in hospitalized patients, including a cost and profit sharing arrangement and co-promotion rights in certain territories. Vir and Visterra will also advance three infectious disease antibodies developed with Visterra's novel Hierotope technology, including antibodies against influenza, RSV, and fungal infections. Under the agreement, Vir may initiate two additional research programs to develop antibodies against pathogens of its choosing. Details of this transaction were announced by Visterra today.
- Vir and Alnylam have entered into an exclusive license and collaboration agreement covering up to five siRNA therapeutics programs for the treatment of infectious diseases. The companies will advance ALN-HBV02 for the treatment of HBV jointly and Alnylam will retain an option to participate in commercialization of the product. In addition, Alnylam will develop siRNA products for up to four additional infectious disease targets of Vir's choosing, and Vir will have the option to further develop any resulting product candidates. Details of this transaction were announced by Alnylam today.
- Vir and Stanford University have entered into a license agreement. The license will support the company's efforts to use artificial intelligence to mine gene expression data for early diagnostic predictions and target discovery.
- Vir and Harvard University have entered into a five-year strategic research alliance. The agreement, initiated with Harvard's Office of Technology Development, fosters scientific collaboration and provides financial support for innovative research projects in infectious diseases, to which Vir will have exclusive access to negotiate licenses.
- Vir has expanded its relationship with OHSU of Portland, Oregon, to include additional sponsored research. OHSU remains a key partner in the development of Vir's CMV vaccine platform.
- Vir and Fred Hutchinson Cancer Research Center have entered into a sponsored research agreement focused on cell therapy.

Together, these partnerships significantly expand Vir's capabilities, building on its previously acquired cytomegalovirus (CMV)-based technologies from TomegaVax. The Bill & Melinda Gates Foundation, which made an equity investment in Vir in December 2016 to support the company's CMV-based HIV and tuberculosis vaccine programs, is expected to provide funding to execute these programs.

John Maraganore, Chief Executive Officer of Alnylam commented: "Vir represents a unique opportunity for us to partner promising assets with a company completely focused on serious infectious diseases, and we believe this alliance offers a significant strategic advantage as we work to leverage our RNAi based-technologies against this therapeutic need."

**Leadership & Governance**

In addition to CEO George Scangos, Vir's leadership team consists of seasoned leaders in their respective fields. The team includes Howard Horn, Chief Financial Officer; Michael Kamarck, Ph.D., Chief Technology Officer; Brian Kelley, SVP, Process Development; Christian Mandl, Ph.D., M.D., SVP, RNA Technologies; Phil Pang, M.D., Ph.D., SVP Clinical Development; Jay Parrish, Ph.D., Chief Business Officer; and Alpna Seth, Ph.D., Chief Operating Officer.

The company's Board of Directors is chaired by Vicki Sato, Ph.D., and its directors include Robert Nelsen, Kristina Burow, Tom Daniel, M.D., Klaus Frueh, Ph.D., Bob More, Deep Nishar, Rob Perez, George Scangos, Ph.D., and Phillip A. Sharp, Ph.D.

The company's Scientific Advisory Board includes:

- Jeff Bluestone, Ph.D., President and CEO of the Parker Institute for Cancer Immunotherapy and the A.W. and Mary Margaret Clausen Distinguished Professor of Metabolism and Endocrinology at the University of California San Francisco (UCSF) School of Medicine;
- Larry Corey M.D., Principal Investigator of the HIV Vaccine Trials Network (HVTN) based at Fred Hutchinson Cancer Research Center, and previously the President and Director of the Fred Hutch;
- Mark Davis, Ph.D., Avery Family Chair of Immunology and Director of the Institute for Immunity, Transplantation and Infection at the Stanford University School of Medicine;
- Emilio Emini, Ph.D., Director of the HIV program at the Bill & Melinda Gates Foundation and former senior vice president of vaccine research and development at Pfizer Inc.;
- Louis J. Picker, M.D., Associate Director of the Vaccine and Gene Therapy Institute at OHSU and Professor of Pathology/Molecular Microbiology and Immunology in the OHSU School of Medicine; and
- George Poste, DVM, Ph.D., Director of the Complex Adaptive Systems Initiative at Arizona State University and former President of Research and Development at SmithKline Beecham (now GlaxoSmithKline).

## Financial Backing

The company was founded by Robert Nelsen and ARCH Venture Partners and seeded by ARCH, the Bill & Melinda Gates Foundation, Altitude Life Science Ventures, and Alta Partners.

"Since we launched less than a year ago," said Managing Director and co-founder of ARCH Robert Nelsen, "Vir has rapidly become the leading place to go with innovations in infectious disease whether you are an academic, a biotech, or a pharmaceutical company."

Additional investors include the SoftBank Vision Fund, Temasek, Baillie Gifford, the Alaska Permanent Fund, and select sovereign wealth funds, private individuals, family offices, and institutional investors.

Deep Nishar, SoftBank Investment Advisers Senior Managing Partner, who has joined the Vir Board of Directors, said: "Vir is creating a platform to cure multiple infectious diseases and aiming to provide vaccines and treatments that are not currently available. We believe the combination of Vir's ground-breaking novel scientific strategy, coupled with the use of cutting-edge data science, and experienced and proven management team, should eventually lead to new solutions for the world's most challenging infectious diseases. Investing in Vir is consistent with the Vision Fund's overall strategy to support companies and technologies that are revolutionizing industries and driving innovation."

## Global Impact of Infectious Disease

Chronic and acute infections impact hundreds of millions of people every year. For example, according to the World Health Organization (WHO), there are about 260 million people in the world living with HBV infection, with millions of new infections annually. Millions also contract seasonal influenza, resulting in three to five million severe cases and between 250,000 and 500,000 deaths globally. In the U.S. alone, the Centers for Disease Control and Prevention (CDC) estimates that the number of influenza-related deaths has ranged from 12,000 (2011-2012) to more than 50,000 (2012-2013), and the potential for a pandemic flu outbreak continues to be a priority for the CDC.

## About Vir

Vir integrates diverse innovations in science, technology, and medicine to transform the care of people with serious infectious diseases. Vir is taking a multi-program, multi-platform approach to applying these breakthroughs, including the development of treatments that induce protective and therapeutic immune responses. Vir's scale and scope, together with leading scientific and management expertise, allow it to perform significant internal R&D, in-license or acquire innovative technology platforms and assets, and fund targeted academic research. The company is headquartered in San Francisco, California, with operations in Portland, Oregon, Boston, Massachusetts, and Bellinzona, Switzerland. To learn more, visit *www.vir.bio*

## About Humabs BioMed SA

Humabs BioMed, a subsidiary of Vir Biotechnology, Inc., San Francisco, California, is based in Switzerland and is focused on discovering and developing fully human monoclonal antibodies to treat serious infections. Humabs BioMed was incubated in the Institute for Research in Biomedicine (IRB), which is located at Bellinzona and affiliated with the Università della Svizzera Italiana (USI). Humabs' proprietary discovery technology – CellClone – platforms enable the isolation of antibodies that have passed natural selection by the human immune system in response to disease and can generally be developed rapidly without extensive lead optimization. Humabs has a portfolio of more than fifteen immunotherapy product candidates. Humabs is internally developing antibodies directed against hepatitis B virus and respiratory syncytial virus and metapneumovirus (RSV/MPV). These programs are currently in preclinical development. Humabs is also developing a portfolio of immunotherapies against major public health threats, including MERS-CoV, Dengue, Rabies and Zika viruses.To learn more, visit www.humabs.com and follow us on Twitter at twitter.com/vir_biotech

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