



Company introduction

Freeing
humanity from
the burden of
respiratory
viruses

1. THE NEED

The outbreak of COVID-19 caught the world off-guard and severely constrained people's ability to live their lives to the fullest. The global public health and economic burden is massive and many of us have fallen ill, lost jobs and not been able to visit or hug loved ones.

Responses to the global pandemic, although incredibly important, have all been reactive. There are very broad measures such as social distancing, or very specific measures such as vaccines that typically protect against a single or few virus variants. However, none of these measures sufficiently prepare us for future outbreaks.

The likelihood of future outbreaks is high, as viruses mutate in humans and millions of unknown viruses are still harbored in nature, of which 600,000-800,000 may spill over to humans. The question is not if, rather when and where a new virus will erupt.

It's time for a new approach.

2. LEYDEN LABS' NEW APPROACH

To protect now from what comes next, the world needs to act proactively and be ready for a broad range of viruses. To accomplish this, we are developing a platform and product candidates built on three innovative concepts:

1. Targeting the commonalities of viruses

The millions of known and unknown viruses can be grouped into a few dozen viral families. By targeting the commonalities of these families, we can develop protection against entire virus families at once, including the unknown variants. Our focus is on respiratory viruses like influenza and coronaviruses, which are most likely to cause pandemics because they are transmitted through the air. Scientific evidence shows that broad protection against entire virus families is possible, e.g. with antibodies and peptides that target commonalities in influenza, coronaviruses and even across virus families^{i, ii, iii}.

2. Attacking viruses where they attack us

With our platform, we are developing nasal sprays that attack viruses where they attack us – in our nasal passages – keeping people safe from catching infections and preventing people from spreading them to others. Additionally, intranasal administration allows for lower doses than intramuscular administration^{iv}.

3. Providing people the freedom to protect themselves

We are working toward accessible, self-administrable products, that protect instantaneously against catching infections and prevent transmission to others. Unlike traditional vaccines, which may take days or weeks to protect against a single strain of virus, people can use our product right before taking public transport, going to a sports game, dining at a restaurant, attending a party or visiting loved ones. We help people to take control and live their lives to the fullest.

3. PRODUCTS AND IP



The Leyden Labs platform is focused on developing three nasal spray product candidates:

1. Pan-Influenza
2. Pan-Corona
3. Pan-Disease X

Our easy-to-use, self-administrable product candidates may target many viruses simultaneously, immediately protecting people against known and future viruses. Each product candidate attacks viruses where they attack us, in our nose, to provide protection against infection and transmission.

The inventions, leading up to the platform technology and the specific products, were made by Leyden Labs' founders and form the basis of patent applications and multiple licenses.

4. MARKET AND COMPETITION

Leyden Labs' product applications are broadly characterized by the phases of a viral outbreak cycle in which they are relevant. There are three main markets:

1. *Pandemic preparedness*: Prior to a new outbreak, governments and individuals would want to stockpile resources for certain high-risk groups such as elderly, healthcare and other essential workers.
2. *Outbreak response*: When an outbreak occurs and until a specific vaccine is available and accessible, governments and private individuals will look to halt further spread and protect those not yet infected, especially in the case of a new virus.
3. *Recurring / seasonal protection*: In the phase where a vaccine is available against specific variants and the nature of an outbreak is seasonal or recurring, individuals will look for additional protection in parallel to the existing, variant-specific vaccines.

We foresee a large addressable market for our products since there are currently no known products on the market that are focused on the premise of cross-family protection against viruses.

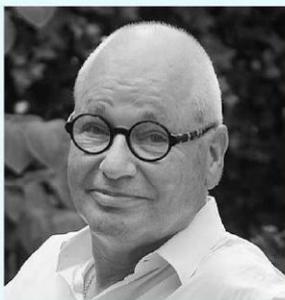
5. ABOUT LEYDEN LABS

Leyden Labs was founded in early 2020 by Koenraad Wiedhaup, Jaap Goudsmit, Ronald Brus and Dinko Valerio. Together, they have founded and grown multiple biotech companies, including Crucell (which was acquired by J&J for ~\$3bn) and Galapagos. The company announced on 25 March 2021 that it raised €40m in Series A, from U.S. based investors, led by GV (formerly Google Ventures). The team of established biotech leaders and young talent is working hard to further develop the platform and portfolio and build out the company in The Netherlands and Boston, US.

Executive team



Koenraad Wiedhaup (*CEO*) worked with biopharmaceutical and life science companies as a partner at McKinsey & Company. Together with executive leadership, he developed business and commercial strategies including launching products and M&As. Prior to McKinsey, Koenraad worked in business development of a San Francisco-based biotechnology company. He holds a master's in life sciences from the Delft and Leiden Universities and an MBA from Columbia Business School in New York.



Jaap Goudsmit (*Chief Scientific Officer*) is an expert in vaccinology and immunology in infectious diseases. As CSO of Crucell, he developed the ADVAC-PERC6 platform for vaccines against HIV, Ebola and RSV. Jaap was senior advisor to the Bill and Melinda Gates Foundation, founding chair of the Scientific Advisory Board of the International AIDS Vaccine Initiative, and co-founder of the EuroVac. Currently Jaap is a faculty member of the Harvard T.H. Chan School of Public Health and CSO of the Human Immunomics Initiative.



Ronald Brus (*Chief Business Officer*) is a medical doctor with 30 years of experience in the field of biotechnology and pharmaceuticals. He worked in Munich, Milan and New York before becoming Chief Business Officer and later CEO of Crucell. Under his tenure Crucell acquired Berna Biotech and SBL, became the largest independent vaccine company and was acquired by J&J. Ronald was co-founder and board member of Galapagos, GAVI board member and founded MyTomorrows, a company that helps patients discover and access treatments in development.

Supervisory Board

The supervisory board combines experience in building biotech companies, (clinical) development and virology. On March 30, 2021, John Martin unexpectedly passed away. His impact on Leyden Labs was enormous and we will continue to honor his contributions through our thoughts and actions.

Dinko Valerio (*Executive Chairman*) is the founder and former CEO of Crucell. He further co-founded Galapagos and venture capital firm Aescap Venture. Dinko helped form several successful biotechnology companies including: Ethical Oncology Sciences (Milan), ActoGenix (Gent), Biocartis (Mechelen) and G7 Therapeutics (Zurich). Furthermore, Dinko is a mentor to several entrepreneurs. He co-founded ProQR Therapeutics where he serves as chairman.

Onno van de Stolpe was founder and CEO of Galapagos since 1999. Previously, he served as Managing Director of Genomics at IntroGene BV and Managing Director of Molecular Probes Europe BV. Van der Stolpe also worked for The Netherlands Foreign Investment Agency recruiting biotechnology and medical device companies to locate to the Netherlands.

James Shannon was CMO at GlaxoSmithKline (2012-2015). Prior to this, he was Global Head of Pharma Development at Novartis and Senior Vice-President, Clinical Development at Sterling Winthrop Pharmaceuticals. He has held board positions at multiple biopharmaceutical companies including Kyowa Kirin (NA), Horizon Therapeutics, Mannkind and Immodulon.

John Martin (*in memoriam*) served as Chairman of Gilead Sciences (2016-2019), after being CEO since 1996. He joined Gilead in 1990 as Vice President, R&D. Prior to Gilead, Dr. Martin held several leadership positions at Bristol-Myers Squibb and Syntex Corporation. He held multiple board positions and has received many scientific awards.

Richard Whitley is a Distinguished Professor, Loeb Scholar Chair in Pediatrics, and Professor of Microbiology, Medicine and Neurosurgery at the University of Alabama in Birmingham. He holds multiple leadership positions in scientific bodies on infectious diseases, pediatrics and oncology, including the National Institute of Allergy and Infectious Diseases Collaborative Antiviral Study Group and a center for drug discovery in the area of emerging infections.

David Schenkein is a general partner at GV (formerly Google Ventures) and co-leader of their life science investment team. He was previously CEO at Agios Pharmaceuticals for ten years and built a career as hematologist and medical oncologist. He led drug developments at Genentech and Millenium Pharmaceuticals.

Stephen Knight joined F-Prime in 2003 and serves as President and Managing Partner. Prior to joining F-Prime, he held various senior management roles in private and public biotechnology and consulting companies. He also worked as a researcher at AT&T Bell Laboratories, the National Institutes of Health and Yale University.

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- ⁱⁱ Xia S, Yan L, Xu W, Agrawal AS, Algaissi A, Tseng CK, Wang Q, Du L, Tan W, Wilson IA, Jiang S, Yang B, Lu L. A pan-coronavirus fusion inhibitor targeting the HR1 domain of human coronavirus spike. *Sci Adv.* 2019 Apr 10;5(4)
- ⁱⁱⁱ Koehler JW, Smith JM, Ripoll DR, Spik KW, Taylor SL, Badger CV, Grant RJ, Ogg MM, Wallqvist A, Guttieri MC, Garry RF, Schmaljohn CS. A fusion-inhibiting peptide against Rift Valley fever virus inhibits multiple, diverse viruses. *PLoS Negl Trop Dis.* 2013 Sep 12;7(9)
- ^{iv} Jacobino et al (with Louis Bont): here Palivizumab and Motavizumab intranasal dosages of 0.05mg/kg were used effectively (<https://www.tandfonline.com/doi/full/10.1080/10420862.2018.1433974>). This could be potentially compared to results of Griffin et al. showing Nirsevimab intramuscular dosages of 50mg for a child of an average of 4.5kg, leading to ~10mg/kg. (<https://www.nejm.org/doi/full/10.1056/nejmoa1913556>)