



PureTech's Vedanta Biosciences Expands Clinical Translational Collaborations in Cancer Immunotherapy

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PureTech Health plc (LSE: PRTC), an advanced, clinical-stage biopharmaceutical company, is pleased to note that Vedanta Biosciences, an affiliate of PureTech Health, has expanded its international network of clinical, translational medicine collaborations.

Vedanta Biosciences has initiated research with Leiden University Medical Center in the Netherlands and the University of South Alabama Mitchell Cancer Institute in the United States to analyse the gut microbiome in a variety of cancers – including melanoma and cancers of the head and neck, bladder, and kidneys – to aid in the development of novel immunotherapies. Additionally, Vedanta Biosciences announced the expansion of its existing immuno-oncology collaboration with the NYU Langone Health and its Perlmutter Cancer Center. For the last year, Vedanta Biosciences has worked with NYU Langone on developing microbiome therapeutics for melanoma patients being treated with checkpoint inhibitors, and will now expand the collaboration to address bladder and lung cancers. Together, these collaborations are designed to generate clinical data to independently validate and build on Vedanta's pipeline of microbiome therapeutics for cancer immunotherapy.

Vedanta Biosciences' immuno-oncology programmes include lead product candidate, VE800, which the company previously announced has been shown in preclinical models to activate CD8+ T cells, a type of white blood cell that is the predominant effector in cancer immunotherapy. The tumour-fighting effects of checkpoint inhibitors were significantly amplified in these models when VE800 was combined with a variety of checkpoint inhibitors. The company anticipates filing an investigational new drug application (IND) for VE800 in 2018.

Joe Bolen, PhD, Chief Scientific Officer of PureTech Health (previously Chief Scientific Officer at both Millennium/Takeda and Moderna and Head of Oncology Research at Bristol-Myers Squibb) said: "Vedanta's new and expanded clinical oncology alliances will provide important insights into the relationship between immunotherapy efficacy and microbiome-mediated immune system performance."

The full text of the announcement from Vedanta Biosciences is as follows:

Vedanta Biosciences Expands Network of Clinical Collaborations Supporting Development of Microbiome Therapeutics for Cancer Immunotherapy

New collaborations with Leiden University Medical Center and the Mitchell Cancer Institute focused on melanoma and cancers of the bladder, head and neck, and kidneys

Emerging data supports expansion of collaboration with NYU Langone Health and its Perlmutter Cancer Center into melanoma and cancers of the bladder and lung

CAMBRIDGE, Massachusetts, November 29, 2017 —[Vedanta Biosciences](#), an affiliate of [PureTech Health](#) (LSE: PRTC) developing a new category of therapies for immune-mediated and infectious diseases based on rationally designed consortia of human microbiome-derived bacteria, today announced new translational medicine collaborations in cancer immunotherapy with Leiden University Medical Center and the University of South Alabama (USA) Mitchell Cancer Institute. The Company also today announced the expansion of its translational medicine collaboration in cancer immunotherapy with NYU Langone Health and its Perlmutter Cancer Center. Researchers at these institutions have been collaborating with Vedanta Biosciences to analyse microbiome clinical data from interventional checkpoint inhibitor studies to identify microbiome signatures associated with response to immunotherapy and key mechanisms through which the gut microbiota modulate immunotherapeutic responses.

"Data from our ongoing clinical collaborations in melanoma show that gut bacteria signatures could help determine if a cancer immunotherapy will work," said Bruce Roberts, PhD, Chief Scientific Officer of Vedanta Biosciences. "We're pleased to expand our research collaborations into others forms of cancer, with the ultimate goal of identifying ways to change the microbiome to increase the proportion of patients and types of cancer patients who respond to immunotherapies."

Under the agreement with Leiden University Medical Center, Vedanta Biosciences will work in collaboration with Ellen Kapiteijn, MD, PhD, and Ed Kuijper, MD, PhD, to understand the role of the microbiome in immunotherapeutic responses against a variety of cancers, including melanoma, head and neck, and bladder. The new collaboration with the USA Mitchell Cancer Center, led by Art Frankel, MD, will analyse associations between the gut microbiome and responses to checkpoint inhibitor treatment in melanoma and cancers of the bladder and kidneys. Building on the existing translational work with NYU Langone in melanoma led by Jeffrey S. Weber, MD, PhD, and Melissa Wilson, MD, PhD, the expanded agreement adds collaborations in bladder cancer and lung cancer, led, respectively, by Arjun V. Balar, MD, and Leena Gandhi, MD, PhD.

Vedanta Biosciences' immuno-oncology programmes include lead product candidate, VE800, which has been shown in preclinical models to activate CD8+ T cells, a type of white blood cell that is the predominant effector in cancer immunotherapy, improve CD8+ T cell tumour infiltration, and improve survival in several cancer models in combination with checkpoint inhibitors. Vedanta anticipates filing an investigational new drug application (IND) for this candidate in 2018.

About Vedanta Biosciences

[Vedanta Biosciences](#) is pioneering development of a new category of therapies for immune-mediated and infectious diseases based on rationally designed consortia of bacteria derived from the human microbiome, with clinical trials expected to begin in the second half of 2017. An affiliate of [PureTech Health](#) (PureTech Health plc, PRTC.L), Vedanta's founding team includes a group of world-renowned experts in immunology and

microbiology. Vedanta Biosciences is a leader in the microbiome field with capabilities and deep expertise to discover, develop and manufacture drugs based on live bacterial consortia. The Company's facilities include integrated manufacturing operations providing cGMP-compliant manufacturing of rationally-designed bacterial consortia in powder form. Leveraging its proprietary technology platform and the expertise of its team of scientific co-founders, Vedanta Biosciences has isolated and maintains the largest collection of human microbiome-associated bacterial strains and has characterised, in collaborations with leading experts, how the immune system recognises and responds to these microbes. This pioneering work has led to the identification of human commensal bacteria that induce a range of immune responses – including induction of regulatory T cells, CD8+ T cells, and Th17 cells, among others – as well as the characterisation of novel molecular mechanisms of microbial-host communication. These advances have been published in leading peer-reviewed journals including [Science](#), [Nature \(multiple\)](#), [Cell](#) and [Nature Immunology](#). Vedanta Biosciences has harnessed these biological insights, its proprietary library of microbiome-derived bacterial strains, as well as data from clinical translational collaborations, to generate a pipeline of programmes addressing infectious diseases, autoimmune diseases, inflammation and immunoncology indications.

Vedanta Biosciences' scientific co-founders have pioneered the fields of innate immunity, Th17 and regulatory T cell biology, and include Dr Ruslan Medzhitov (Professor of Immunobiology at Yale), Dr Alexander Rudensky (tri-institutional Professor at the Memorial Sloan-Kettering Institute, the Rockefeller University and Cornell University), Dr Dan Littman (Professor of Molecular Immunology at NYU), Dr Brett Finlay (Professor at the University of British Columbia) and Dr Kenya Honda (Professor, Keio University School of Medicine). Vedanta is backed by Seventure, Invesco Asset Management, and Rock Springs Capital and has collaborations with leading institutions including Janssen Biotech, Inc., NYU Langone Health and its Perlmutter Cancer Center, Stanford University School of Medicine, Leiden University Medical Center, University of Tokyo, Keio University, RIKEN, and the University of South Alabama Mitchell Cancer Institute.

About PureTech Health

PureTech Health (PureTech Health plc, PRTC.L) is an advanced, clinical-stage biopharmaceutical company developing novel medicines targeting serious diseases that result from dysfunctions in the nervous, immune, and gastrointestinal systems (brain-immune-gut or the "BIG" axis), which together represent the adaptive human systems. PureTech Health is at the forefront of understanding and addressing the biological processes and crosstalk associated with the BIG axis. By harnessing this emerging field of human biology, the Company is pioneering new categories of medicine with the potential to have great impact on people with serious diseases. PureTech Health is advancing a rich pipeline of innovative therapies that includes two pivotal stage programmes, multiple human proof-of-concept studies and a number of early clinical and pre-clinical programmes. PureTech's rich research and development pipeline has been advanced in collaboration with some of the world's leading scientific experts, who along with PureTech's team of biopharma pioneers, entrepreneurs and seasoned Board, identify, invent, and clinically de-risk new medicines. With this experienced team pursuing cutting edge science, PureTech Health is building the biopharma company of the future focused on improving and extending the lives of people with serious disease. For more information, visit www.puretechhealth.com or connect with us on Twitter [@puretechh](https://twitter.com/puretechh).

Forward Looking Statement

This press release contains statements that are or may be forward-looking statements, including statements that relate to the company's future prospects, developments and strategies. The forward-looking statements are based on current expectations and are subject to known and unknown risks and uncertainties that could cause actual results, performance and achievements to differ materially from current expectations, including, but not limited to, those risks and uncertainties described in the risk factors included in the regulatory filings for PureTech Health plc. These forward-looking statements are based on assumptions regarding the present and future business strategies of the company and the environment in which it will operate in the future. Each forward-looking statement speaks only as at the date of this press release. Except as required by law and regulatory requirements, neither the company nor any other party intends to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise.