



News Release

Takeda and BE Collaborate to Develop Low-Cost Vaccines for Low and Middle-Income Countries

Two recently-signed agreements will transfer Takeda's measles and acellular pertussis vaccine technologies to India-based multi-national company Biological E. Limited (BE) to develop low-cost combination vaccines including diphtheria, tetanus and acellular pertussis (DTaP) and measles-rubella (MR) vaccines

Hyderabad, India, June 26, 2017 – Takeda Pharmaceutical Company Limited [TSE: 4502], ("Takeda") and Biological E. Limited (BE) today announced that they have entered into a collaboration whereby two licensing agreements to expedite the development and delivery of affordable combination vaccines have been executed. BE will commercialize the vaccine in India, China and low- and middle-income countries where large, unmet public health needs exist.

Takeda has sold both the measles and pertussis vaccines in the Japanese market for more than 20 years. In heavily populated countries like India, where 25.7 million births occurred in 2015, substantial opportunities remain to deliver critical vaccines to those who need them. In the absence of access to vaccines in many parts of the world, this partnership illustrates Takeda's desire to forge the kind of collaborations needed to overcome this public health challenge in low- and middle-income countries.

"Access to medicines is one of Takeda's core values, and these agreements align with Takeda's strategic goals to make high-impact contributions to global public health, either alone or through partners," said Rahul Singhvi, Chief Operating Officer, Takeda Vaccine Business Unit. "These two agreements along with our current vaccine pipeline underscore our global commitment to address important infectious diseases across the globe."

Under these agreements, Takeda will conduct a transfer from Japan to BE its existing measles and acellular pertussis vaccine bulk production technology, including the provision of technical services such as support in infrastructure review, training for production and quality control, technical assistance in process development, preclinical study design, and production of clinical batch and the first commercial batches.

BE will scale up the bulk production technology transferred from Takeda and will be solely responsible for conducting and funding development activities for the combination vaccines. BE has rights to use Takeda's measles vaccine technology for a combination MR vaccine and the right to use Takeda's pertussis vaccine technology for any pertussis-containing combination vaccine. BE will have





commercialization rights for the MR and pertussis vaccines in India, China and selected public markets worldwide as defined in the agreements.

According to Mahima Datla, Managing Director, Biological E. Limited, "At the core of our mission is to develop and commercialize affordable vaccines. We have successfully demonstrated this through our DTwP franchise in developing countries, and this collaboration allows us to serve additional markets and diversify our geographic presence. In the context of MR, we look forward to contributing to the measles elimination goals and protection against rubella."

Takeda's Commitment to Vaccines

Vaccines prevent more than two million deaths each year and have transformed global public health. For 70 years, Takeda has supplied vaccines to protect the health of people in Japan. Today, Takeda's global vaccine business is applying innovation to tackle some of the world's most challenging infectious diseases, such as dengue, Zika, norovirus, and polio. Our team brings an outstanding track record and a wealth of knowledge in vaccine development, manufacturing and global access to advance a pipeline of vaccines to address some of the world's most pressing public health needs.

About Takeda Pharmaceutical Company Limited

Takeda Pharmaceutical Company Limited (TSE: 4502) is a global, research and development-driven pharmaceutical company committed to bringing better health and a brighter future to patients by translating science into life-changing medicines. Takeda focuses its research efforts on oncology, gastroenterology and central nervous system therapeutic areas plus vaccines. Takeda conducts R&D both internally and with partners to stay at the leading edge of innovation. New innovative products, especially in oncology and gastroenterology, as well as its presence in emerging markets, fuel the growth of Takeda. More than 30,000 Takeda employees are committed to improving quality of life for patients, working with our partners in health care in more than 70 countries. For more information, visit http://www.takeda.com/news.

About Biological E. Limited

Biological E. Limited (BE) is a privately held company established in 1953. BE is a globally focused biopharmaceutical company, which develops, manufactures and markets innovative vaccines and biologics that respond to healthcare needs worldwide. The company's product development efforts are driven by an internationally experienced management team and the company has several strategic partnerships with leading biotechnology and pharmaceutical companies and research institutes around the world.

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