

Phathom[®]

PHARMACEUTICALS

Takeda and Frazier Healthcare Partners Announce Collaboration to Launch Phathom Pharmaceuticals

May 15, 2019

New Company and Collaboration To Develop Novel Therapeutics Including Vonoprazan for the Treatment of Acid-Related Disorders in North America and Europe

Cambridge, Mass. and Menlo Park, Calif., May 15, 2019 – Takeda Pharmaceutical Company Limited ([TSE:4502/NYSE:TAK](https://www.takeda.com/usa/investor-relations)) (“Takeda”) and Frazier Healthcare Partners (“Frazier”) today announced a collaboration to launch Phathom Pharmaceuticals, a biopharmaceutical company focused on the development and commercialization of novel treatments for gastrointestinal (GI) diseases and disorders. Takeda has granted a license to Phathom for the development and exclusive commercialization rights to vonoprazan in the United States, Europe and Canada in exchange for upfront cash and equity, as well as future cash milestones and royalties on net sales. In connection with the license, Phathom has completed a \$90 million crossover financing and \$50 million debt facility.

Vonoprazan is a novel, orally active potassium competitive acid blocker (P-CAB) discovered and developed by Takeda. Takeda and Otsuka will continue to co-promote vonoprazan in Japan which they have done since 2015. Takeda will continue to market vonoprazan in several Asian markets where it is currently launched (Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand). P-CABs are a class of drug that competitively block the potassium-binding site of gastric hydrogen potassium ATPase (also known as the proton pump), which is the enzyme primarily responsible for acidification of the stomach.

“Takeda embraces collaboration to further develop and create value around promising assets where partnership makes more sense for our business,” said Asit Parikh M.D., Ph.D, Head, Gastroenterology Therapeutic Area Unit at Takeda. “Phathom’s skilled leadership, with deep expertise in acid-related disorders, positions them well to expand access to vonoprazan in North America and Europe while Takeda continues to leverage its presence in Japan and several Asian markets.”

Following a standard eight-week course of proton pump inhibitor (PPI) therapy, 30–40 percent of patients with gastroesophageal reflux disease (GERD) continue to experience symptoms.¹ PPIs in combination with antibiotics are also used for the eradication of *H. pylori*, which is associated with peptic ulcer disease and gastric cancer. However, the eradication rate of standard PPI-based triple therapy is reported to be 70-80%.^{2,3}

“We are excited to have the opportunity to develop vonoprazan for the United States, Europe and Canada to address this immense unmet need,” said Tachi Yamada, M.D., Chairman of Phathom and Venture Partner with Frazier. “Phathom represents a truly unique opportunity to launch a new company around a highly experienced, world-class team developing a late-stage product candidate supported by strong clinical data and commercial experience.”

Phathom has completed a \$90 million private financing led by Frazier Healthcare Partners with investments from Medicxi, RA Capital Management, Abingworth, certain accounts managed by Janus Henderson Investors, BVF Partners LP, Greenspring Associates, Richard King Mellon Foundation, Sahsen Ventures and undisclosed institutional investors. The company also completed a \$50 million term loan facility with Silicon Valley Bank.

“We are very pleased with the quality of the investor group participating in this oversubscribed crossover financing,” said David Socks, interim Chief Executive Officer of Phathom and Venture Partner with Frazier. “We welcome their support in our efforts to advance vonoprazan, a next generation therapeutic with the potential to make a profound impact on the lives of patients with acid-related gastrointestinal disorders.”

Joining Tachi Yamada and David Socks on the Phathom board of directors are James Topper, M.D., Ph.D., Managing General Partner of Frazier Healthcare Partners, and Jon Edwards, Ph.D., Partner of Medicxi.

Takeda’s Commitment to Gastroenterology

Gastrointestinal (GI) diseases can be complex, debilitating and life-changing. Recognizing this unmet need, Takeda and our collaboration partners have focused on improving the lives of patients through the delivery of innovative medicines and dedicated patient disease support programs for over 25 years. Takeda aspires to advance how patients manage their disease. Additionally, Takeda is leading in areas of gastroenterology associated with high unmet need, such as inflammatory bowel disease, acid-related diseases and motility disorders. Our GI Research & Development team is also exploring solutions in celiac disease and liver diseases, as well as scientific advancements through microbiome therapies.

About Takeda

Takeda Pharmaceutical Company Limited ([TSE:4502/NYSE:TAK](https://www.takeda.com/usa/investor-relations)) is a global, values-based, R&D-driven biopharmaceutical leader headquartered in Japan,

committed to bringing Better Health and a Brighter Future to patients by translating science into highly-innovative medicines. Takeda focuses its R&D efforts on four therapeutic areas: Oncology, Gastroenterology (GI), Neuroscience, and Rare Diseases. We also make targeted R&D investments in Plasma-Derived Therapies and Vaccines. We are focusing on developing highly innovative medicines that contribute to making a difference in people's lives by advancing the frontier of new treatment options and leveraging our enhanced collaborative R&D engine and capabilities to create a robust, modality-diverse pipeline. Our employees are committed to improving quality of life for patients and to working with our partners in health care in approximately 80 countries and regions.

For more information, visit <https://www.takeda.com>

About Frazier Healthcare Partners

Founded in 1991, Frazier Healthcare Partners is a leading provider of growth and venture capital to healthcare companies. With nearly \$4.2 billion total capital raised, Frazier has invested in over 170 companies, with investment types ranging from company creation and venture capital to buyouts of profitable lower-middle market companies. The firm's Growth Buyout team invests in healthcare and pharmaceutical services, medical products and related sectors. The Life Sciences team invests in therapeutics and related areas that are addressing unmet medical needs through innovation. Frazier has offices in Seattle, WA and Menlo Park, CA, and invests broadly across the US, Canada, and Europe. For more information about Frazier Healthcare Partners, visit the company's website at www.frazierhealthcare.com.

About Phathom Pharmaceuticals

Phathom Pharmaceuticals is a biopharmaceutical company focused on the development and commercialization of novel treatments for gastrointestinal diseases and disorders. For more information about Phathom, visit the company's website at www.phathompharma.com.

Forward-Looking Statements

This press release and any materials distributed in connection with this press release may contain forward-looking statements, beliefs or opinions regarding Takeda's future business, future position and results of operations, including estimates, forecasts, targets and plans for Takeda. Without limitation, forward looking statements often include the words such as "targets", "plans", "believes", "hopes", "continues", "expects", "aims", "intends", "will", "may", "should", "would", "could" "anticipates", "estimates", "projects" or words or terms of similar substance or the negative thereof. Any forward-looking statements in this document are based on the current assumptions and beliefs of Takeda in light of the information currently available to it. Such forward-looking statements do not represent any guarantee by Takeda or its management of future performance and involve known and unknown risks, uncertainties and other factors, including but not limited to: the economic circumstances surrounding Takeda's business, including general economic conditions in Japan, the United States and worldwide; competitive pressures and developments; applicable laws and regulations; the success of or failure of product development programs; decisions of regulatory authorities and the timing thereof; changes in exchange rates; claims or concerns regarding the safety or efficacy of marketed products or products candidates; and post-merger integration with acquired companies, any of which may cause Takeda's actual results, performance, achievements or financial position to be materially different from any future results, performance, achievements or financial position expressed or implied by such forward-looking statements. For more information on these and other factors which may affect Takeda's results, performance, achievements, or financial position, see "Item 3. Key Information—D. Risk Factors" in Takeda's Registration Statement on Form 20-F filed with the U.S. Securities and Exchange Commission, available on Takeda's website at: <https://www.takeda.com/investors/reports/sec-filings/> or at www.sec.gov. Neither Takeda nor its management gives any assurances that the expectations expressed in these forward-looking statements will turn out to be correct, and actual results, performance or achievements could materially differ from expectations. Persons receiving this press release should not place undue reliance on forward looking statements. Takeda undertakes no obligation to update any of the forward-looking statements contained in this press release or any other forward-looking statements it may make. Past performance is not an indicator of future results and the results of Takeda in this press release may not be indicative of, and are not an estimate, forecast or projection of Takeda's future results.

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