

## PRESS RELEASE

### **AbbVie and Turnstone Biologics Announce Global Collaboration on Viral Immunotherapies in Oncology**

**NORTH CHICAGO, Ill., OTTAWA, Ontario, and NEW YORK – Oct. 10, 2017** – AbbVie (NYSE: ABBV), a global biopharmaceutical company, and Turnstone Biologics, a clinical-stage immuno-oncology company, today announced a research, option and license agreement whereby AbbVie obtained an exclusive option to license up to three of Turnstone’s next-generation oncolytic viral immunotherapies.

Oncolytic viruses take advantage of defective pathways in tumors to selectively replicate in and destroy cancer cells, while cancer vaccines create killer (CD8+) T cell immune responses against tumor antigens. Taking an innovative approach, Turnstone Biologics engineered its Maraba oncolytic viral immunotherapy to function as both a selective tumor-destroying oncolytic virus and an immune-stimulating T cell vaccine. Leaving healthy cells unaffected, the Maraba platform directly attacks cancer cells and changes the tumor microenvironment to make the cancer susceptible to the targeted vaccine-induced immune response. The result is a powerful therapy that harnesses the individual’s own immune system to attack and kill tumors locally and at metastatic sites throughout the body, generating durable memory and preventing recurrence.

“Turnstone Biologics is the first company to clinically develop a combined oncolytic virus and cancer vaccine, and we are very impressed by their work to-date. This unique approach to cancer treatment complements our expanding portfolio of novel therapies in development,” said Tom Hudson, M.D., vice president, oncology discovery and early development, AbbVie. “The combination of our world-class expertise in oncology drug development partnered with Turnstone’s innovative therapeutic platform has the potential to generate first-in-class immunotherapies that can attack tumors directly and improve patients’ response to treatment.”

Under the terms of the agreement, AbbVie has an option to obtain all global development and commercialization rights to Turnstone Biologics’ Ad-MG1-MAGEA3 therapy, which is in two Phase 1/2 clinical trials for multiple solid tumor indications both alone and in combination with an approved anti-PD-1 checkpoint inhibitor, as well as up to two research-stage candidates to be developed by Turnstone as part of the collaboration. Each of the three therapies leverages Turnstone’s first-in-class platform based on an engineered Maraba virus. In the event AbbVie exercises one or more of its options, AbbVie expects to pursue this immunotherapeutic technology across several types of solid tumors.

“Since our initial round of financing less than two years ago, we have experienced significant growth, progressing from a single early-stage immunotherapy program to a promising clinical-

stage pipeline of multiple therapeutic candidates across several cancer indications,” said Sammy Farah, Ph.D., chief executive officer of Turnstone. “AbbVie’s global reach and deep experience in bringing to market medicines that deliver transformational improvements to patients will accelerate the development of Maraba-based therapies for solid tumors. We are committed to delivering on the promise of our technology, and will rapidly advance the AbbVie-licensed therapies as well as our own pipeline of medicines.”

Financial terms were not disclosed. The transaction is subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act.

### **About Turnstone Biologics**

Turnstone Biologics is a clinical-stage, immuno-oncology company focused on the development of next-generation oncolytic viral immunotherapies for patients with a broad range of solid tumors. The company’s first-of-its-kind investigational oncolytic viral immunotherapies combine the potent tumor-killing effects of an oncolytic virus with a tumor-targeted T-cell vaccine to harness an individual’s own immune system to attack the tumor, with the goal of preventing recurrence and delivering a cure. Turnstone Biologics’ robust pipeline of early-stage investigational therapies, based on its Maraba (MG1) oncolytic virus platform, are in development for solid tumors. In addition to the MAGEA3 therapy currently in the clinic, Turnstone Biologics expects to enter the clinic in early 2018 with a therapy for HPV+ cancers, and is also developing medicines for multiple other cancers. These immunotherapies are being evaluated as monotherapies and in combination with other cancer therapies, including checkpoint inhibitors. Turnstone has been financed by Versant Ventures, OrbiMed, F-Prime Capital Partners and FACIT. For more information, please visit [www.turnstonebio.com](http://www.turnstonebio.com).

### **About AbbVie**

AbbVie is a global, research-driven biopharmaceutical company committed to developing innovative advanced therapies for some of the world’s most complex and critical conditions. The company’s mission is to use its expertise, dedicated people and unique approach to innovation to markedly improve treatments across four primary therapeutic areas: immunology, oncology, virology and neuroscience. In more than 75 countries, AbbVie employees are working every day to advance health solutions for people around the world. For more information about AbbVie, please visit us at [www.abbvie.com](http://www.abbvie.com). Follow [@abbvie](https://twitter.com/abbvie) on Twitter, [Facebook](https://www.facebook.com/abbvie) or [LinkedIn](https://www.linkedin.com/company/abbvie).

### **AbbVie Forward-Looking Statements**

Some statements in this news release may be forward-looking statements for purposes of the Private Securities Litigation Reform Act of 1995. The words "believe," "expect," "anticipate," "project" and similar expressions, among others, generally identify forward-looking statements. AbbVie cautions that these forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those indicated in the forward-looking statements. Such risks and uncertainties include, but are not limited to, challenges to intellectual



property, competition from other products, difficulties inherent in the research and development process, adverse litigation or government action, and changes to laws and regulations applicable to our industry.

Additional information about the economic, competitive, governmental, technological and other factors that may affect AbbVie's operations is set forth in Item 1A, "Risk Factors," in AbbVie's 2016 Annual Report on Form 10-K, which has been filed with the Securities and Exchange Commission. AbbVie undertakes no obligation to release publicly any revisions to forward-looking statements as a result of subsequent events or developments, except as required by law.

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