

# Ionis Enters into Collaboration with Seventh Sense Biosystems to Support Development of Improved Blood Collection and Diagnostic Device

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CARLSBAD, Calif., Oct. 18, 2017 /PRNewswire/ -- Ionis Pharmaceuticals, Inc. (NASDAQ: IONS) announced today that it has entered a collaboration with Seventh Sense Biosystems, Inc. (7SBio), a private medical device company developing TAP™, a novel, push-button, blood collection device to make blood testing more convenient and virtually painless. As part of its commitment to the collaboration, Ionis has made a strategic investment of \$2 million in 7SBio as part of a Series C financing that will also include other investors.



7SBio aims to create a new standard for blood collection that increases patient compliance with blood testing by improving patients' experience with blood collection, leading to faster diagnoses and better outcomes. The U.S. Food and Drug Administration (FDA) recently approved TAP for the collection of blood by a health care worker for hemoglobin A1c (HbA1c) measurement. The company plans to include broader tests and allow for self-collection in the future.

"7SBio has attracted world-class investors and is developing innovative devices we believe could revolutionize the way blood is collected. We believe that our collaboration and strategic investment in 7SBio will help provide additional resources and expertise to optimize the development of these novel devices," said B. Lynne Parshall, chief operating officer at Ionis Pharmaceuticals. "These new devices can improve patients' experience with blood testing by making the whole procedure fast, easy and painless, and is one of several approaches we are pursuing to make platelet monitoring more convenient for patients."

"We are excited to have Ionis as a partner in developing our TAP devices for blood testing. We believe that these devices can transform the diagnostics industry by enabling patients to collect a high-quality blood sample anywhere," said Howard Weisman, chief executive officer of Seventh Sense Biosystems.

For more information about 7SBio and TAP, please see the 7SBio website [here](#).

## ABOUT IONIS PHARMACEUTICALS, INC.

Ionis is the leading company in RNA-targeted drug discovery and development focused on developing drugs for patients who have the highest unmet medical needs, such as those patients with severe and rare diseases. Using its proprietary antisense technology, Ionis has created a large pipeline of first-in-class or best-in-class drugs, with over three dozen drugs in development. SPINRAZA® (nusinersen) has been approved in global markets for the treatment of spinal muscular atrophy (SMA). Biogen is responsible for commercializing SPINRAZA. Drugs that have successfully completed Phase 3 studies include inotersen, an antisense drug Ionis is developing to treat patients with TTR amyloidosis, and volanesorsen, an antisense drug discovered by Ionis and co-developed by Ionis and Akcea Therapeutics to treat patients with either familial chylomicronemia syndrome or familial partial lipodystrophy. Akcea, an affiliate of Ionis, is a biopharmaceutical company focused on developing and commercializing drugs to treat patients with serious cardiometabolic diseases caused by lipid disorders. If approved, volanesorsen will be commercialized through Ionis' affiliate, Akcea. Volanesorsen filings for marketing approval have been submitted in the U.S., EU and Canada. Inotersen is progressing toward regulatory filings for marketing authorization. Ionis' patents provide strong and extensive protection for its drugs and technology. Additional information about Ionis is available at [www.ionispharma.com](http://www.ionispharma.com).

## IONIS' FORWARD-LOOKING STATEMENT

This press release includes forward-looking statements regarding Ionis' collaboration with Seventh Sense Biosystems, Inc. and the development, safety and commercial success of novel medical devices for blood testing. Any statement describing Ionis' goals, expectations, financial or other projections, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those inherent in the process of discovering, developing and commercializing drugs that are safe and effective for use as human therapeutics, and in the endeavor of building a business around such drugs. Ionis' forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause its results to differ materially from those expressed or implied by such forward-looking statements. Although Ionis' forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Ionis. As a result, you are cautioned not to rely on these forward-looking statements. These and other risks concerning Ionis' programs are described in additional detail in Ionis' annual report on Form 10-K for the year ended December 31, 2016, and its most recent quarterly report on Form 10-Q, which are on file with the SEC. Copies of these and other documents are available from the Company.

In this press release, unless the context requires otherwise, "Ionis," "Company," "we," "our," and "us" refers to Ionis Pharmaceuticals and its subsidiaries.

Ionis Pharmaceuticals™ is a trademark of Ionis Pharmaceuticals, Inc. Akcea Therapeutics™ is a trademark of Ionis Pharmaceuticals, Inc. SPINRAZA® is a registered trademark of Biogen.

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