



Arrowhead Enters \$3.7 Billion License and Collaboration Agreements with Janssen

October 4, 2018

- Upon closing, Arrowhead to receive \$250 million, consisting of \$175 million upfront payment from Janssen and \$75 million equity investment from Johnson & Johnson Innovation – JJDC, Inc.
- Arrowhead eligible to receive additional \$3.5 billion in potential milestone payments, and potential further royalties on commercial sales
- Janssen to receive a worldwide exclusive license for ARO-HBV and an option to collaborate on up to three new targets
- Arrowhead will hold a conference call and webcast today, Oct. 4, at 8:30 a.m. ET

PASADENA, Calif.--(BUSINESS WIRE)--Oct. 4, 2018-- Arrowhead Pharmaceuticals Inc. (NASDAQ: ARWR) today announced that it entered into a license and collaboration agreement with Janssen Pharmaceuticals, Inc., part of the Janssen Pharmaceutical Companies of Johnson & Johnson, to develop and commercialize ARO-HBV. In addition, Arrowhead entered into a research collaboration and option agreement with Janssen to potentially collaborate for up to three additional RNA interference (RNAi) therapeutics against new targets to be selected by Janssen. The transactions have a combined potential value of over \$3.7 billion for Arrowhead.

Under the terms of the agreement, Arrowhead will receive \$175 million as an upfront payment. Separately, Johnson & Johnson Innovation – JJDC, Inc. (JJDC) will make a \$75 million equity investment in Arrowhead at a price of \$23.00 per share of Arrowhead common stock.

Arrowhead is eligible to receive up to approximately \$1.6 billion in milestone payments for the HBV license agreement, including a \$50 million milestone payment linked to a Phase 2 study. Arrowhead is also eligible to receive approximately \$1.9 billion in option and milestone payments for the collaboration agreement related to up to three additional targets. Arrowhead is further eligible to receive tiered royalties up to mid teens on product sales.

"This agreement represents an important next step for ARO-HBV. Arrowhead has established a leadership position in the field over the past several years, and Janssen's proven development capabilities, global commercial reach, and commitment to HBV make it the ideal partner to potentially accelerate our goal of bringing a functional cure to patients with chronic HBV," said Christopher Anzalone, Ph.D., Arrowhead's president and CEO. "The collaboration also represents further validation of the TRiM™ platform and provides an important opportunity to create up to three additional novel medicines by leveraging Arrowhead's speed and expertise in RNAi drug discovery and Janssen's clinical development and commercial capabilities."

Under the agreement, Janssen receives a worldwide exclusive license to the ARO-HBV program, Arrowhead's third-generation subcutaneously administered RNAi therapeutic candidate being developed as a potentially curative therapy for patients with chronic hepatitis B virus infection. Beyond AROHBV1001, Arrowhead's ongoing Phase 1/2 study of ARO-HBV, Janssen will be wholly responsible for clinical development and commercialization.

Janssen can also select up to three new targets, against which Arrowhead will develop clinical candidates. These potential new candidates will leverage Arrowhead's proprietary TRiM™ platform, and do not include Arrowhead's current pipeline. Arrowhead will perform discovery, optimization, and preclinical development, entirely funded by Janssen, sufficient to allow the filing of a U.S. Investigational New Drug application or equivalent, at which time Janssen will have the option to take an exclusive license. If the option is exercised, Janssen will be wholly responsible for clinical development and commercialization.

The closing of the transactions is subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and is expected to close during the fourth quarter of 2018.

Conference Call and Webcast Details

Investors may access a live audio webcast on the Company's website at <http://ir.arrowheadpharma.com/events.cfm>. For analysts that wish to participate in the conference call, please dial 855-215-6159 or 315-625-6887 and provide Conference ID 2649806.

A replay of the webcast will be available on the company's website approximately two hours after the conclusion of the call and will remain available for 90 days. An audio replay will also be available approximately two hours after the conclusion of the call and will be available for 3 days. To access the audio replay, dial 855-859-2056 or 404-537-3406 and provide Conference ID 2649806.

About AROHBV1001

AROHBV1001 ([NCT03365947](https://clinicaltrials.gov/ct2/show/study/NCT03365947)) is evaluating the safety, tolerability, and pharmacokinetic effects of single-ascending doses (SAD) of ARO-HBV in healthy adult volunteers, as well as the safety, tolerability, and pharmacodynamic effects of multiple-ascending doses (MAD) of ARO-HBV in patients with chronic HBV. Dosing in the SAD portion of the study is complete and included five cohorts at dose levels of 35, 100, 200, 300, and 400 mg. Dosing in the MAD portion of the study is ongoing and includes cohorts receiving three doses of ARO-HBV either weekly, bi-weekly, or monthly.

Arrowhead submitted a late-breaking abstract with clinical data to the Liver Meeting®, the Annual Meeting of the American Association for the Study of Liver Disease (AASLD), being held in November 2018.

About Arrowhead Pharmaceuticals

Arrowhead Pharmaceuticals develops medicines that treat intractable diseases by silencing the genes that cause them. Using a broad portfolio of

RNA chemistries and efficient modes of delivery, Arrowhead therapies trigger the RNA interference mechanism to induce rapid, deep, and durable knockdown of target genes. RNA interference, or RNAi, is a mechanism present in living cells that inhibits the expression of a specific gene, thereby affecting the production of a specific protein. Arrowhead's RNAi-based therapeutics leverage this natural pathway of gene silencing.

For more information, please visit www.arrowheadpharma.com, or follow us on Twitter [@ArrowheadPharma](https://twitter.com/ArrowheadPharma). To be added to the Company's email list and receive news directly, please visit <http://ir.arrowheadpharma.com/email-alerts>.

Safe Harbor Statement under the Private Securities Litigation Reform Act:

This news release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based upon our current expectations and speak only as of the date hereof. Our actual results may differ materially and adversely from those expressed in any forward-looking statements as a result of various factors and uncertainties, including the safety and efficacy of our product candidates, the duration and impact of regulatory delays in our clinical programs, our ability to finance our operations, the future success of our scientific studies, our ability to successfully develop drug candidates, the timing for starting and completing clinical trials, rapid technological change in our markets, and the enforcement of our intellectual property rights. Our most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q discuss some of the important risk factors that may affect our business, results of operations and financial condition. We assume no obligation to update or revise forward-looking statements to reflect new events or circumstances.

Source: Arrowhead Pharmaceuticals, Inc.

View source version on businesswire.com: <https://www.businesswire.com/news/home/20181004005195/en/>

Source: Arrowhead Pharmaceuticals, Inc.

Arrowhead Pharmaceuticals, Inc.

Vince Anzalone, CFA

626-304-3400

ir@arrowheadpharma.com

or

Investors and Media:

LifeSci Advisors, LLC

Brian Ritchie

212-915-2578

britchie@lifesciadvisors.com

www.lifesciadvisors.com