May 6, 2015

Arrowhead Presents Data on Potential RNAi Candidate Targeting Factor 12 Mediated Angioedemic and Thromboembolic Diseases

PASADENA, Calif.--(BUSINESS WIRE)-- Arrowhead Research Corporation (NASDAQ: ARWR), a biopharmaceutical company developing targeted RNAi therapeutics, today presented data at IBC's 17th Annual TIDES Conference in San Diego on the preclinical development of an RNAi therapeutic as a potential treatment for factor 12 (F12) mediated angioedemic and thromboembolic diseases. The presentation included data from in vitro screenings, in vivo evaluations, a disease model, and a multiple dose study in nonhuman primates. These data support advancement of ARC-F12 as a potential new candidate in Arrowhead's growing pipeline of RNAi-based therapeutics enabled by the company's Dynamic Polyconjugate (DPC) delivery platform. A copy of the presentation may be viewed on the Events and Presentations section of the company's website at http://ir.arrowheadresearch.com/events.cfm.

"We see factor 12 as an extremely attractive target to add to our pipeline. There is clear unmet need in thrombosis and angioedema and the biology of factor 12 as part of the coagulation cascade and the kinin-kallikrein system suggest that its reduction through RNAi may present opportunities in both disease areas," said Christopher Anzalone, Ph.D., president and chief executive officer. "We will be conducting additional studies in relevant disease models shortly to provide us with further data to decide on the advancement of ARC-F12 as a clinical candidate and initiation of IND enabling studies."

David Lewis, Ph.D., chief scientific officer, presented initial data from wild type mice, showing that various RNAi triggers selected from in vitro screening sets and co-administered with DPCs achieved significant and sustained knockdown of F12 levels of greater than 99% at nadir for most triggers. Strategic incorporation of various modifications to the most potent RNAi trigger increased the depth and duration of F12 knockdown activity as shown in dose response studies. In a study in mice, these modified triggers exhibited a dose-dependent increase in F12 knockdown. A single intravenous dose of 0.5 mg/kg reduced F12 by greater than 80%. When the dose was increased to 2 mg/kg, the reduction increased to greater than 95% at nadir, with greater than 70% knockdown observed at the one month time point. The lead RNAi trigger was also highly active in multiple dose nonhuman primate studies. With four intravenous doses of 2 mg/kg given once every four weeks, approximately 90% F12 knockdown was achieved after the first dose with even greater knockdown following subsequent doses. Knockdown was also highly durable with greater than 80% reduction maintained between monthly doses. The combination of RNAi trigger and DPC appeared to be generally well-tolerated and no drug-related changes in toxicity markers were observed as measured by clinical chemistry and hematologic parameters.

Dr. Lewis also presented data from a relevant disease model on the lead RNAi trigger and DPC combination. In this mouse model, thromboembolism is induced by exposure of carotid artery to ferric chloride. The time to blood flow occlusion is then measured as a clinically relevant indicator of physiological response to F12 knockdown. Animals were treated with saline or the lead RNAi trigger and DPC combination 15 days prior to ferric chloride challenge. Treated animals showed approximately 99% knockdown in serum F12 levels at Day 15 relative to baseline, while animals receiving saline showed no reduction. A dramatic increase in occlusion times as a measure of the inhibition of thrombus formation was observed in treated mice.

Arrowhead believes that ARC-F12 may present opportunities to target multiple diseases, including in thrombosis. The company is currently planning to investigate ARC-F12 in hereditary angioedema (HAE) as the first target indication. HAE is a rare genetic disorder with a prevalence of approximately 1/5,000-1/10,000 that is most commonly caused by mutations in the complement factor 1 esterase inhibitor gene (C1INH). Patients with HAE can experience recurrent and dangerous acute inflammatory attacks in multiple tissues, with attacks of laryngeal edema being particularly serious and potentially fatal. Current treatments seek to reduce the severity, duration, and frequency of acute HAE attacks, but frequent intravenous dosing of 1-3 times weekly is required and many patients do not respond adequately. Arrowhead believes the novel mechanism of ARC-F12 may fill an unmet need for patients and physicians who desire long term prophylaxis and may view intravenous dosing every 4-6 weeks as a significant advance.

The company is currently planning additional evaluation of ARC-F12 in relevant HAE disease models including C1INH knockout animals and captopril-induced vascular leak, among potential other studies to support advancement of ARC-F12 into IND enabling studies.

About Arrowhead Research Corporation

Arrowhead Research Corporation is a biopharmaceutical company developing targeted RNAi therapeutics. The company is leveraging its proprietary Dynamic Polyconjugate™ delivery platform to develop targeted drugs based on the RNA interference mechanism that efficiently silences disease-causing genes. Arrowhead's pipeline includes ARC-520 for chronic hepatitis B virus and ARC-AAT for liver disease associated with Alpha-1 antitrypsin deficiency.

For more information please visit http://www.arrowheadresearch.com, or follow us on Twitter @ArrowRes. To be added to the Company's email list and receive news directly, please visit http://ir.arrowheadresearch.com/alerts.cfm.

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 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, actions of the U.S. Food and Drug Administration (FDA) and similar global regulatory bodies, rapid technological change in our markets, challenges to the validity of our intellectual property rights, and the enforcement of our intellectual property rights. Arrowhead Research Corporation's 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 Research Corporation

Arrowhead Research Corporation
Vince Anzalone, CFA
626-304-3400
ir@arrowres.com
or
Investor Relations:
The Trout Group
Todd James
646-378-2926
ir@arrowres.com
or
Media:
Russo Partners
Matt Middleman, M.D.
212-845-4272
matt.middleman@russopartnersllc.com

Source: Arrowhead Research Corporation

News Provided by Acquire Media