



## **Aerpio Pharmaceuticals to Present Data Demonstrating Role of VE-PTP in Conventional Outflow Homeostasis and the Potential of AKB-9778, a VE-PTP Inhibitor/Tie2 Activator, as a Treatment for Open-Angle Glaucoma**

April 25, 2019

*Data to be presented at the Association for Research in Vision and Ophthalmology (ARVO) 2019 Annual Meeting*

CINCINNATI--(BUSINESS WIRE)--Apr. 25, 2019-- Aerpio Pharmaceuticals, Inc. (NASDAQ:ARPO), a biopharmaceutical company focused on developing compounds that activate Tie2 to treat ocular diseases and diabetic complications, will present data demonstrating the role of VE-PTP in the conventional outflow pathway and the potential of AKB-9778, a VE-PTP inhibitor and Tie2 activator, as a treatment for open-angle-glaucoma. The data are to be presented at The Association for Research in Vision and Ophthalmology (ARVO) 2019 Annual Meeting on April 29 in Vancouver, British Columbia.

The investigators assessed anatomical expression of VE-PTP and Tie2 in the ocular outflow pathway and tested the effect of topical ocular administration AKB-9778 on IOP in a normotensive mouse animal model. Microscopic analysis showed co-expression of VE-PTP and Tie2 in endothelium of Schlemm's canal, which drains the anterior chamber of the eye, and collector channels originating from Schlemm's canal. Thus, the anatomical localization of Tie2 in Schlemm's canal coincides with the region of pathogenesis of ocular hypertension in glaucoma that could be caused by Tie2 dysfunction. When an inhibitor of VE-PTP, AKB-9778, which activates the Tie2 pathway, is administered to the eye surface it induces a significant reduction of IOP as well as increased outflow through Schlemm's canal. The study supports evaluating agents that activate Tie2 as a therapeutic approach to treating open-angle glaucoma.

"This study provides mechanistic proof-of-concept that the Tie2 pathway is a valid therapeutic target to treat ocular hypertension in glaucoma and that topical administration of AKP-9778, a potent VE-PTP inhibitor and Tie2 activator, can significantly decrease intraocular pressure or IOP," said W. Daniel Stamer, Ph.D., Joseph A.C. Professor of Ophthalmology, Duke University School of Medicine, and incoming president of ARVO. "We found that VE-PTP, a negative regulator of Tie2, is expressed along with Tie2 in Schlemm's canal, the primary drainage pathway from the eye. Topical administration of AKB-9778 resulted in a significant lowering of IOP by increasing fluid outflow through the canal. To our knowledge this is the first example of increasing ocular outflow by activating Tie2 in Schlemm's canal."

Kevin Peters, M.D., Chief Scientific Officer of Aerpio added, "We have observed measurable reductions in IOP in two Phase 2 clinical trials that investigated subcutaneous AKB-9778 in a different ophthalmological indication. Based on preclinical and clinical data obtained to date, we have submitted an Investigational New Drug application with the U.S. Food and Drug Administration with the objective of initiating a Phase 1b trial with a topical ocular formulation of AKB-9778 in the second quarter of 2019."

Presentation details:

**Abstract Title:** By targeting Tie2/VE-PTP in Schlemm's canal, AKB-9778 lowers intraocular pressure via increasing outflow facility in mice

**Session Title:** Aqueous humor dynamics and IOP

**Session Date and Time:** Monday, April 29, 2019 from 4:00 p.m. – 5:45 p.m. PDT

**Presentation Number:** 2186

**Presentation Date and Time:** Monday, April 29, 2019 from 4:00 p.m. – 4:15 p.m. PDT

**Presenter:** W. Daniel Stamer, Ph.D., Joseph A. C. Wadsworth Professor of Ophthalmology, Professor of Biomedical Engineering, Duke University

**Location:** Vancouver Convention Center Room East 2/3

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Abstracts and full session details can be found at [www.arvo.org](http://www.arvo.org).

## About Aerpio Pharmaceuticals

Aerpio Pharmaceuticals, Inc. is a biopharmaceutical company focused on advancing first-in-class compounds that activate Tie2 to treat ocular diseases and complications of diabetes. Tie2 is an important regulator of vascular stability and its down-regulation is found in patients with diabetes and other conditions. Down-regulation is caused by activation of two inhibitors of Tie2, VE-PTP and Ang-2. The Company's lead compound, AKB-9778, is being investigated for its potential utility in treating diabetic nephropathy and an eyedrop formulation is in development as a potential treatment for open-angle glaucoma. For more information, please visit [www.aerpio.com](http://www.aerpio.com)

## Forward Looking Statements

This press release contains forward-looking statements. Statements in this press release that are not purely historical are forward-looking statements. Such forward-looking statements include, among other things, the development of the Company's product candidates, including AKB-9778, the Company's plans for future development of its product candidates, including the timing and commencement of the Company's planned clinical trials, the role of VE-PTP and the Tie2 pathway in treatment of diabetic complications, including ocular hypertension in glaucoma, and the therapeutic potential of the Company's product candidates. Actual results could differ from those projected in any forward-looking statements due to several risk factors. Such factors include, among others, the ability to continue to develop AKB-9778 or other product candidates, the inherent uncertainties associated with the drug development process, including uncertainties in regulatory interactions, commencing clinical trials and enrollment of patients in clinical trials, competition in the industry in which the Company operates and overall market conditions.

These forward-looking statements are made as of the date of this press release, and the Company assumes no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements, except as required by law. Investors should consult all the information set forth herein and should also refer to the risk factor disclosure set forth in the reports and other documents the Company files with the SEC available at [www.sec.gov](http://www.sec.gov).

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