



## **AgiOS Initiates Phase 1 Study of AG-348, a First-in-class PKR Activator, for Pyruvate Kinase Deficiency**

April 17, 2014

*- First Agios Clinical Program in Inborn Errors of Metabolism -*

*- Third Agios Program to Enter Clinic in Less than a Year -*

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Apr. 17, 2014-- Agios Pharmaceuticals, Inc. (NASDAQ: AGIO), a leader in the fields of cancer metabolism and inborn errors of metabolism (IEM), today announced dose administration of AG-348 in a Phase 1 study in healthy volunteers. AG-348 is an orally available, potent, selective small molecule activator of pyruvate kinase-R (PK-R), a metabolic enzyme, which, when mutated, leads to pyruvate kinase (PK) deficiency, a rare, inherited hemolytic anemia. There is substantial unmet need among patients with PK deficiency as there is no therapy available to treat the underlying disease. AG-348 is wholly owned by Agios, with the company maintaining full worldwide development and commercialization rights.

"Today's announcement marks the initiation of our first clinical program in IEMs and our third as a company," said David Schenkein, M.D., chief executive officer of Agios. "Agios believes in the potential of small molecules to become disease-modifying therapeutics for rare genetic disorders by targeting the specific metabolic defects driving these diseases. We expect that the results from this healthy volunteer study will enable us to move AG-348 rapidly into a study in patients with PK deficiency."

"Preclinical studies have demonstrated that AG-348 activates a broad spectrum of PK-R mutant proteins, and corrects the metabolic defects found in patient-derived blood samples," said Scott Biller, chief scientific officer of Agios. "These data support the hypothesis that drug intervention with AG-348 will restore glycolytic pathway flux and normalize red blood cell metabolism. Because AG-348 directly targets the underlying disease, it has the potential to be an important treatment option for patients with PK deficiency."

### **About the Study**

The Phase 1, single-center, randomized, double-blind, placebo-controlled clinical trial will assess the safety and tolerability of AG-348 through dose escalation in healthy adult men and women. Key objectives of the trial include characterizing the safety, pharmacokinetic and pharmacodynamic relationships of AG-348 and select metabolic biomarkers. Please refer to [www.clinicaltrials.gov](http://www.clinicaltrials.gov) for additional clinical trial details.

### **About Pyruvate Kinase (PK) Deficiency**

PK deficiency is a rare inherited disease that presents as hemolytic anemia due to the accelerated destruction of red blood cells (RBCs). PK deficiency is caused by mutations that affect the activity of the metabolic enzyme PK-R, the form of pyruvate kinase that is present in RBCs. The current standard of care for PK deficiency is supportive, including blood transfusions, splenectomy, chelation therapy to address iron overload and/or interventions for other treatment- and disease-related morbidities. Currently, there is no approved therapy to treat the underlying cause of PK deficiency.

### **About Agios Pharmaceuticals, Inc.**

Agios Pharmaceuticals is focused on discovering and developing novel drugs to treat cancer and inborn errors of metabolism, or IEMs, which are rare genetic metabolic diseases, through scientific leadership in the field of cellular metabolism. In addition to an active research and discovery pipeline across both therapeutic areas, Agios has multiple first-in-class lead product candidates in cancer metabolism and IEMs in clinical and/or preclinical development. All Agios programs focus on genetically identified patient populations, leveraging our knowledge of metabolism, biology and genomics. For more information, please visit our website at [www.agios.com](http://www.agios.com)

### **Cautionary Note Regarding Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Such forward-looking statements include those regarding Agios' expectations and beliefs about: the potential of pyruvate kinase R as a therapeutic target; the potential benefits of Agios' product candidate AG-348; its plans and timelines for the clinical development of AG-348; and the benefit of its strategic plans and focus. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Such statements are subject to numerous important factors, risks and uncertainties that may cause actual events or results to differ materially from Agios' current expectations and beliefs. For example, there can be no guarantee that any product candidate Agios is developing will successfully commence or complete necessary preclinical and clinical development phases, or that development of any of Agios' product candidates will successfully continue. There can be no guarantee that any positive developments in Agios' business will result in stock price appreciation. Management's expectations and, therefore, any forward-looking statements in this press release could also be affected by risks and uncertainties relating to a number of other important factors, including: Agios' results of clinical trials and preclinical studies, including subsequent analysis of existing data and new data received from ongoing and future studies; the content and timing of decisions made by the U.S. FDA and other regulatory authorities, investigational review boards at clinical trial sites and publication review bodies; Agios' ability to obtain and maintain requisite regulatory approvals and to enroll patients in its planned clinical trials; unplanned cash requirements and expenditures; competitive factors; Agios' ability to obtain, maintain and enforce patent and other intellectual property protection for any product candidates it is developing; Agios' ability to maintain key collaborations, such as its agreement with Celgene; and general economic and market conditions. These and other risks are described in greater detail under the caption "Risk Factors" included in Agios' Annual Report on Form 10-K for the year ended December 31, 2013, and other filings that Agios may make with the Securities and Exchange Commission in the future. Any forward-looking statements contained in this press release speak only as of the date hereof, and Agios expressly disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

Source: Agios Pharmaceuticals, Inc.

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