



NEWS RELEASE

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bluebird bio Secures \$60 Million in Oversubscribed Financing

- Proceeds will Further Strengthen bluebird's Proprietary Gene Therapy Platform and Advance Multiple Clinical Programs in Severe Genetic Disorders, Including a Global ALD Phase 2/3 Study -

CAMBRIDGE, Mass., July 25, 2012 -- bluebird bio, a leader in the development of innovative gene therapies for severe genetic disorders, today announced the successful completion of a \$60 million Series D financing. In this round, new investors Deerfield Partners, RA Capital, Ramius Capital Group, and two undisclosed blue chip public investment funds joined existing investors ARCH Venture Partners, Third Rock Ventures, TVM Capital, and Forbion Capital Partners. In addition, Shire plc joined the round as a strategic investor.

Howard Furst, M.D., partner at Deerfield Partners, stated, "We believe bluebird's proprietary approach to gene therapy holds the promise to meet critically important unmet medical needs. We are pleased to join an outstanding group of new and existing investors in supporting this experienced management team to further the clinical development and commercialization of one-time transformative gene therapies."

Proceeds will be used to advance the company's clinical programs in severe genetic disorders, including childhood cerebral adrenoleukodystrophy (CCALD), beta-thalassemia and sickle cell disease. With the proceeds from this financing and based on promising early clinical proof of concept results, bluebird bio plans to initiate a Phase 2/3 clinical study in CCALD in both the United States and Europe in 2013, as well as a second U.S.-based Phase 1/2 study in beta-thalassemia in 2013. In addition, the company expects to initiate a more extensive sickle cell disease development program and invest in manufacturing, clinical and commercial infrastructure to support the upcoming clinical trials and pre-commercial launch activities.

"Gene therapy has come a long way over the last several years toward realizing its potential as a powerful treatment modality," said Dan Lynch, chairman of the bluebird bio board of directors. "We believe bluebird bio is at the forefront of major advances in the field and perhaps most importantly has assembled the most experienced and driven team in the gene therapy space."

"This is an exciting time for bluebird and the milestones in the field of gene therapy. The strong

support from our existing and new investors is incredible and will fuel our efforts for some time,” said Nick Leschly, CEO of bluebird bio. “To have a gene therapy product platform that has the potential to provide a one-time transformative therapy for patients suffering from terrible, life threatening diseases is simply a privilege and is at the heart of what motivates and drives the bluebird team every day.”

The Cowen Group served as a strategic advisor on the financing.

About bluebird bio

bluebird bio is developing innovative gene therapies for severe genetic disorders. At the heart of bluebird bio’s product creation efforts is its broadly applicable gene therapy platform for the development of novel treatments for diseases with few or no clinical options. The company’s novel approach uses stem cells harvested from the patient’s own bone marrow into which a healthy version of the disease causing gene is inserted. bluebird bio’s approach represents a true paradigm shift in the treatment of severe genetic diseases by eliminating the potential complications associated with donor cell transplantation and potentially presenting a one-time transformative therapy using a patient’s own stem cells. bluebird bio has two later stage clinical products in development for childhood cerebral adrenoleukodystrophy (CCALD) and beta-thalassemia, and plans to initiate a program in sickle cell disease. Led by a world-class team, its operations are located in Cambridge, Mass. and Paris, France. For more information, please visit www.bluebirdbio.com.

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