



NEWS RELEASE

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bluebird bio Secures Additional \$30 Million in Financing; ARCH Venture Partners Joins Investor Team

*New Financing Will Further Advance the Beta-Thalassemia, Sickle Cell Anemia
and ALD Clinical Programs While Accelerating the Product Platform Build*

CAMBRIDGE, Mass., April 20, 2011 – bluebird bio, an emerging leader in the development of innovative gene therapies for severe genetic disorders, today announced that the company has secured an additional \$30 million in financing. The financing includes a new investor, ARCH Venture Partners, in addition to support from existing investors Third Rock Ventures, TVM Capital, Forbion Capital Partners and Easton Capital Investment Group. In conjunction with this financing, ARCH managing director Steven Gillis, Ph.D., will join bluebird bio's board of directors.

bluebird bio is focused on building an important company that will deliver one time, transformative gene therapy treatments to patients suffering from diseases with few or no clinical options. Since completing a \$35 million Series B in early 2010, bluebird bio has hired a leading team while advancing several clinical programs through key development and regulatory milestones. This early financing is part of a longer term strategy focused on not only driving forward ongoing clinical programs, but also to significantly accelerate and strengthen the company's core capabilities that lie at the heart of its broadly applicable gene therapy platform.

"We are delighted to welcome Steve and ARCH Venture Partners to the bluebird bio team," said Nick Leschly, president and CEO of bluebird bio. "This financing validates the significant progress we have made in building bluebird bio over the last year. Most importantly, the financial stability allows our team to focus on driving forward our clinical trials while strategically investing in our pipeline and core product platform capabilities."

"ARCH is excited to join bluebird bio in its vision to develop transformative gene therapies," said Dr. Gillis. "Gene therapy has come a long way toward realizing its potential as a clinically relevant treatment modality. We believe bluebird bio is at the forefront of several important advances in the field and is uniquely positioned to meet the significant treatment void for patients with severe genetic diseases."

Dr. Gillis joined ARCH in 2005 after an accomplished career in the biotechnology industry. Prior to joining ARCH, Dr. Gillis was a founder and CEO of Corixa Corporation. Prior to Corixa, Dr. Gillis was a founder, chief scientific officer and CEO of Immunex Corporation. Dr. Gillis currently serves as a director or chairman of multiple ARCH biotechnology portfolio companies in Seattle and Boston. As a former director and chairman of Trubion Pharmaceuticals (TRBN), he led its acquisition by Emergent BioSolutions in the fall of 2010. He is an immunologist by training with more than 300 peer-reviewed publications in the areas of molecular and tumor immunology. Dr. Gillis received a B.A. from Williams College and a Ph.D. from Dartmouth College.

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 bone marrow into which a healthy version of the disease causing gene is inserted. After being grown in culture, those cells are given back to the patient. 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 presenting a one-time transformative therapy. bluebird bio has two later stage clinical products in development for childhood cerebral adrenoleukodystrophy (CCALD) and beta-thalassemia/sickle cell anemia. Led by a world-class team, bluebird bio is privately held and backed by top-tier life sciences investors, including Third Rock Ventures, TVM Capital, ARCH Venture Partners, Forbion Capital Partners, Easton Capital and Genzyme Ventures. Its operations are located in Cambridge, Mass. and Paris, France. For more information, please visit www.bluebirdbio.com.

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