AVI BioPharma Announces Department of Defense Funding to Accelerate Development of AVI-4658 for Duchenne Muscular Dystrophy

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For Immediate Release

PORTLAND, OR — May 6, 2009 — AVI BioPharma, Inc. (NASDAQ: AVII), a developer of RNA-based drugs, today announced a $2.5 million contract with Children's National Medical Center in Washington, D.C. to support preclinical studies in the development of AVI-4658 for treatment of Duchenne muscular dystrophy. The work will be conducted with Children's National collaborators Eric Hoffman, Ph.D., an authority on DMD and Professor of Pediatrics, and Edward Connor, M.D., Director, Office of Investigational Therapeutics and Professor of Pediatrics. AVI will serve as a subcontractor to a grant awarded to Children's National by the U.S. Department of Defense.

"We are pleased to collaborate with Dr. Hoffman, a distinguished researcher and expert in the field of DMD, and advance AVI's efforts toward the development of therapeutics utilizing exon skipping for the treatment of DMD," said Steve Shrewsbury, M.D., Chief Medical Officer and Senior Vice President of Clinical and Regulatory Affairs of AVI BioPharma. "Through this collaboration, AVI hopes to provide the additional data as requested by the FDA to allow clinical studies with AVI-4658 to begin in the U.S."

The collaboration will support a series of GLP toxicology studies for AVI's exon skipping drug candidates based on phosphorodiamidate morpholino oligomers (PMO) chemistry. The funding is part of the Department of Defense's Congressionally Directed Medical Research Program to identify and pursue research with the most promise for treatment of DMD.

"Exon skipping represents one of the most promising investigational approaches for the treatment of Duchenne muscular dystrophy, and it is imperative to accelerate the clinical development of therapeutics that could improve the care and quality of life for boys with this disease,' said Dr. Hoffman.

"A strong pre-clinical GLP toxicology package is a critical part of a robust drug development program, and this new grant is designed to help enable both intravenous and subcutaneous clinical trials in DMD patients in the U.S.," said Dr. Connor.

AVI is currently evaluating AVI-4658 in human clinical trials in Europe. The drug is designed to skip exon 51 of the dystrophin gene, allowing for restoration of the reading frame in the mRNA sequence. By skipping this exon, a truncated, yet potentially functional form of the dystrophin protein is produced, which could ameliorate the disease process and possibly prolong and improve the quality of life in these patients. Results from a Phase 1 proof-of-concept trial showed that injection of the drug into the muscles of a series of DMD boys successfully induced dystrophin production in a dose-responsive manner. Further, the drug was well tolerated, with no significant drug–related adverse events reported. The clinical trial was conducted in collaboration with the MDEX Consortium in London UK. AVI is currently sponsoring an ongoing clinical trial in the UK evaluating the systemic delivery of AVI-4658. This is an open label, 12 week safety trial, which includes measures of drug efficacy and pharmacokinetics, being conducted in London, UK at the UCL Institute of Child Health / Great Ormond Street Hospital NHS Trust facilities by members of the MDEX Consortium.

About Duchenne Muscular Dystrophy (DMD)

DMD is the most common fatal genetic disorder to affect children around the world. Approximately one in every 3,500 boys worldwide is afflicted with Duchenne muscular dystrophy with 20,000 new cases reported each year. It is a devastating and incurable muscle-wasting disease associated with specific inborn errors in the gene that codes for dystrophin, a protein that plays a key structural role in muscle fiber function. Symptoms usually appear in male children before age six. Progressive muscle weakness of the legs and pelvis eventually spreads to the arms, neck, and other areas. By age 10, braces may be required for walking, and most patients are confined to a wheelchair by age 12. Eventually, this progresses to complete paralysis and increasing difficulty in breathing. The condition is terminal and death usually occurs before the age of 30. The outpatient cost of care for a non-ambulatory DMD boy is among the highest of any disease. There is currently no cure for DMD, but for the first time in decades, there are promising therapies in or moving into development.

About AVI BioPharma

AVI BioPharma is focused on the discovery and development of RNA–based drugs utilizing proprietary derivatives of its antisense chemistry (morpholino-modified phosphorodiamidate oligomers or PMOs) that can be applied to a wide range of diseases and genetic disorders through several distinct mechanisms of action. Unlike other RNA therapeutic approaches, AVI's antisense technology has been used to directly target both messenger RNA (mRNA) and its precursor (pre-mRNA), allowing for both up- and down-regulation of targeted genes and proteins. AVI's RNA–based drug programs are being evaluated for the treatment of Duchenne muscular dystrophy as well as for the treatment of cardiovascular restenosis through our partner Global Therapeutics, a Cook Group Company. AVI's antiviral programs have demonstrated promising outcomes in Ebola Zaire and Marburg Musoke virus infections and may prove applicable to other viral targets such as HCV or Dengue viruses. For more information, visit www.avibio.com.

About Children's National Medical Center/Children's Research Institute

Children's National Medical Center, located in Washington, D.C., is a proven leader in the development of innovative new treatments for childhood illness and injury. Children's has been serving the nation's children for more than 135 years. Children's National is proudly ranked among the best pediatric hospitals in America by US News & World Report and the Leapfrog Group. For more information, visit www.childrensnational.org Children's Research Institute, the academic arm of Children's National Medical Center, encompasses the translational, clinical, and community research efforts of the institution. Learn more about our research programs at www.childrensnational.org/research and www.wickerproject.org.