AVI BioPharma Drug Demonstrates Strong Survival Benefits and Elimination of Ebola Virus in Animals

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Encouraging Results Also Shown Against Marburg Virus

PORTLAND, Ore.--(BUSINESS WIRE)--Sept. 12, 2007--AVI BioPharma, Inc. (Nasdaq:AVII) announced today the presentation of data from two studies evaluating the company's NEUGENE(R) PLUS therapeutic antisense compounds in the treatment of nonhuman primates (NHP) exposed to the Ebola virus. Results of the studies were presented at the National Institutes of Health's Filovirus Animal Workshop by Dr. Sina Bavari, principal investigator, U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID).

The studies were conducted in collaboration with USAMRIID and funded as part of AVI's two-year, $28 million research contract with the Defense Threat Reduction Agency (DTRA) of Fort Belvoir, Va., an agency of the Department of Defense.

The two Ebola studies involved 10 NHP subjects, including two controls. In the first study, three of four treated NHPs survived and the Ebola viral infection was completely eliminated. In the second study, all four treated NHPs survived substantially beyond untreated subjects and all completely eliminated the Ebola virus. Subjects were initially challenged with a 1000pfu of Ebola Zaire and then treated one hour following exposure with a 20 mg/kg dose of two NEUGENE PLUS antisense drugs via subcutaneous (SC) and intraperitoneal (IP) injection. Researchers continued treatment daily for 10 to 14 days via SC and IP injection at 20mg/kg.

Dr. Bavari also presented data for two studies evaluating NEUGENE PLUS therapeutics in the treatment of mice and guinea pigs exposed to different strains of the Marburg virus. One hundred percent survival was observed in mice challenged with Marburg, Ravn strain and 100 percent survival was observed in guinea pigs challenged with Marburg, Musoke strain. The NEUGENE PLUS therapeutic is expected to be effective against all known strains of Marburg. These studies were also supported by the $28 million DTRA contract.

"These studies clearly demonstrate the ability of a NEUGENE PLUS treatment to protect against viremia and death associated with Ebola or Marburg exposure," said K. Michael Forrest, AVI's interim CEO. "This research provides the basis for a viable therapeutic response as part of our nation's biodefense preparedness. It also establishes much-needed scientific evidence of therapeutic benefit against two currently untreatable hemorrhagic viruses that trigger devastating outbreaks."

Associated mouse studies demonstrated that AVI's Ebola NEUGENE PLUS therapies are safe and well-tolerated in mice at 50 times the dose used in the NHP studies.

The NEUGENE PLUS molecules used in the study represent a small but significant chemical modification to AVI's antisense "backbone." This change, which creates a positively charged therapeutic molecule that binds more readily with negatively charged RNA virus particles, is one result of an ongoing initiative at AVI to innovate the antisense platform for improved pharmacokinetics and bioavailability in certain therapeutic areas, including the treatment of infectious diseases.

AVI researchers are in the process of conducting additional GMP and GLP toxicology and safety studies using the NEUGENE PLUS compounds as part of the ongoing collaboration between USAMRIID and AVI. The next step in evaluating clinical efficacy of the NEUGENE PLUS drugs against Ebola exposure will measure the impact of delayed treatment of Ebola Zaire threats in a NHP population.

About Ebola Zaire and Marburg Viruses

Ebola hemorrhagic fever is a severe, often-fatal disease in humans and nonhuman primates (monkeys, gorillas and chimpanzees) that has appeared sporadically since its initial recognition in 1976. The disease is caused by infection with Ebola virus, named after a river in the Democratic Republic of Congo (formerly Zaire) in Africa, where it was first recognized. Ebola virus and Marburg virus are the only two members of a family of RNA viruses called the Filoviridae.

Researchers have hypothesized that the first patient becomes infected through contact with an infected animal. After the first patient in an outbreak setting is infected, the virus can be transmitted in several ways. People can be exposed to Ebola virus from direct contact with the blood and/or secretions of an infected person.

The disease is a National Institute of Allergy and Infectious Disease (NIAID) priority A pathogen and a bioterrorism suspect agent of interest to the Department of Defense and Project BioShield. There are currently no approved treatments for Ebola.

Marburg virus was first recognized in 1967, when outbreaks of hemorrhagic fever occurred simultaneously in laboratories in Marburg and Frankfurt, Germany, and in what is now Serbia.

Marburg hemorrhagic fever is a rare, severe type of hemorrhagic fever that affects both humans and nonhuman primates. It is caused by a genetically unique animal-borne RNA virus, whose recognition led to the creation of this virus family.

About AVI BioPharma

AVI BioPharma develops therapeutic products for the treatment of life-threatening diseases using third-generation NEUGENE antisense drugs and ESPRIT exon skipping technology. AVI's lead NEUGENE antisense compound is designed to target cell proliferation disorders, including cardiovascular restenosis. In addition to targeting specific genes in the body, AVI's antiviral program uses NEUGENE antisense compounds to combat disease by targeting single-stranded RNA viruses, including dengue virus, Ebola virus and H5N1 avian influenza virus. AVI's NEUGENE-based

ESPRIT technology is initially being applied to potential treatments for Duchenne muscular dystrophy. More information about AVI is available on the company's Web site at http://www.avibio.com.

"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995: The statements that are not historical facts contained in this release are forward-looking statements that involve risks and uncertainties, including, but not limited to, the results of research and development efforts, the results of preclinical and clinical testing, the effect of regulation by the FDA and other agencies, the impact of competitive products, product development, commercialization and technological difficulties, and other risks detailed in the company's Securities and Exchange Commission filings.

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