

Nature Medicine Publishes AVI BioPharma Preclinical Studies Demonstrating Post-Exposure Efficacy of PMOplus (TM) Oligomers Against Ebola and Marburg Viruses

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BOTHELL, WA, Aug 23, 2010 (MARKETWIRE via COMTEX) --

AVI BioPharma, Inc. (NASDAQ: AVII), a developer of RNA-based therapeutics, today announced the publication online in Nature Medicine of new preclinical data demonstrating that AVI-6002 and AVI-6003, the respective lead therapeutic candidates against Ebola and Marburg viruses, both employing AVI's advanced PMOplus(TM) chemistry, provide post exposure efficacy in non-human primates. Treatment of Ebola virus-infected primates with AVI-6002 led to 60% survival, and treatment of Marburg-infected primates with AVI-6003 conferred 100% survival, compared to control groups where both viruses were universally lethal. In addition to survival, AVI-6002 and AVI-6003 demonstrated improvements in levels of viremia, harmful inflammatory indicators and measurements of virus induced liver damage.

The work was a collaborative effort between AVI BioPharma and scientists at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), the Department of Defense's (DoD) lead medical research laboratory for biological defense. All preclinical studies were conducted at USAMRIID, which has the DoD's only Biosafety Level 4, or maximum containment, capability -- essential for studying the Ebola and Marburg viruses.

"These studies provide further evidence of the potential of our advanced PMOplus(TM) chemistry, coupled with our RNA-based technologies, as a unique and important platform for the research and development of novel anti-infective therapeutics," commented J. David Boyle II, Interim President and Chief Executive Officer of AVI BioPharma. "These results, as well as results from our other anti-infective therapeutic programs targeting influenza and dengue viruses, are very encouraging and reinforce our commitment to the development of innovative anti-infective therapeutics utilizing our RNA-based technologies and leading PMO chemistry expertise."

About AVI's PMOplus(TM) Chemistry

PMOplus(TM) chemistry is an advanced generation of the phosphorodiamidate morpholino oligomer, or PMO, pioneered by AVI. The PMO platform is designed to provide a stable chemistry backbone with superior drug-like characteristics for AVI's advanced RNA-based therapeutics. PMOplus(TM) chemistry includes specific molecular charges positionally inserted into the PMO's inherent charge-neutral backbone. The PMOplus(TM) modifications are intended to specifically enhance drug performance characteristics on two key parameters: targeted cell penetration and the maintenance of antiviral performance in the presence of viral mutation.

About Ebola and Marburg Viruses

Ebola hemorrhagic fever is a severe and often fatal disease in humans. The disease was first recognized in 1976 and is one of two members of a family of RNA viruses called Filoviridae. The disease is generally understood to be endemic to parts of Africa. Onset of illness from Ebola virus is abrupt and symptoms include fever, headache, muscle ache, vomiting and stomach pain. Internal and external bleeding may also be observed in some patients. There are currently no treatments for Ebola virus infection beyond supportive care.

Marburg hemorrhagic fever is another severe and potentially fatal disease in humans first recognized in 1967. It is also caused by an RNA virus of the filovirus family and is understood to be endemic to Africa. Onset of the disease is often sudden and the symptoms include fever, chills, nausea, vomiting, chest pain and diarrhea. Increasingly severe symptoms may also include massive hemorrhaging and multiple organ dysfunction. There are currently no treatments for Marburg virus infection beyond supportive care.

About USAMRIID

USAMRIID, located at Fort Detrick, Maryland, is the lead medical research laboratory for the U.S. Department of Defense's Biological Defense Research Program, and plays a key role in national defense and in infectious disease research. The Institute conducts basic and applied research on biological threats resulting in medical solutions (such as vaccines, drugs and diagnostics)

to protect the warfighter. While USAMRIID's primary mission is focused on the military, its research often has applications that benefit society as a whole. USAMRIID is a subordinate laboratory of the U.S. Army Medical Research and Materiel Command. For more information, visit www.usamriid.army.mil

About AVI BioPharma

AVI BioPharma is focused on the discovery and development of novel RNA-based therapeutics for rare and infectious diseases, as well as other select disease targets. Applying pioneering technologies developed and optimized by AVI, we are able to target a broad range of diseases and disorders through distinct RNA-based mechanisms of action. Unlike other RNA-based approaches, our technologies can be used to directly target both messenger RNA (mRNA) and precursor messenger RNA (pre-mRNA) to either down-regulate (inhibit) or up-regulate (promote) the expression of targeted genes or proteins. By leveraging our highly differentiated RNA antisense-based technology platform, we have built a pipeline of potentially transformative therapeutic agents, including a clinical stage Duchenne muscular dystrophy candidate and anti-infective candidates for influenza and hemorrhagic fever viruses. For more information, visit www.avibio.com.

This press release contains statements that are forward-looking, including statements about the amount and timing of potential funding; the development of AVI 6002 and AVI 6003; AVI's PMOplus(TM) chemistry and other antisense-based technology and efficacy, potency and utility in the treatment of infectious diseases, and its potential to treat a broad number of human diseases. These forward-looking statements involve risks and uncertainties, many of which are beyond AVI's control. Known risk factors include, among others: development of AVI 6002 and/or AVI 6003 may not result in funding from the TMT in the anticipated amounts or on a timely basis, if at all; clinical trials may not demonstrate safety and efficacy of any of AVI's drug candidates and/or AVI's antisense-based technology platform; any of AVI's drug candidates may fail in development, may not receive required regulatory approvals, or be delayed to a point where they do not become commercially viable. Any of the foregoing risks could materially and adversely affect AVI's business, results of operations and the trading price of its common stock. For a detailed description of risks and uncertainties AVI faces, you are encouraged to review the official corporate documents filed with the Securities and Exchange Commission. AVI does not undertake any obligation to publicly update its forward-looking statements based on events or circumstances after the date hereof.

SOURCE: AVI BioPharma, Inc.