AVI BioPharma and US Department of Defense Successfully Complete Rapid Response Exercise in 11 Days Against Real-World Threat, Dengue Virus

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AVI Designed and Manufactured a Novel RNA-Based Drug Candidate Against Dengue Virus Using Proprietary PMOplus(TM) Technology in 11 Days

BOTHELL, WA, Feb 28, 2011 (MARKETWIRE via COMTEX) --

AVI BioPharma, Inc. (NASDAQ: AVII), a developer of RNA-based therapeutics, announced today the successful completion in 11 days of a second formal rapid response exercise supported by the Transformational Medical Technologies (TMT) program from the U.S. Department of Defense Chemical and Biological Defense program through the Defense Threat Reduction Agency contract HDTRA1-09-C-0046. This exercise centered around the dengue virus, a potentially fatal pathogen that infects up to 100 million people globally each year. In 2009, AVI successfully completed its first formal TMT rapid response exercise against the pandemic H1N1 influenza virus (swine flu).

The key outcome of this rapid response exercise was AVI's conception, design and manufacture of a novel RNA-based drug candidate against dengue virus in only 11 days. The drug candidate, AVI-6006, uses AVI's proprietary PMOplus(TM) technology, a positively charged version of its intrinsically charge-neutral phosphorodiamidate morpholino oligomer (PMO) chemistry. This exercise is part of TMT's effort, in partnership with AVI, to develop and refine an efficient rapid response capacity that includes the capability of responding to a real-world emerging infectious disease or biological threat by rapidly identifying the threat, designing and producing therapeutic candidates against the threat, and then evaluating the preclinical efficacy of therapeutic candidates.

"AVI's ability to effectively and rapidly respond to real-world infectious disease and biological threats is inherent to the nature of our RNA-based technologies and represents the prospect of a new, faster, more efficient, and perhaps more predictable, option for drug development in our industry," commented Chris Garabedian, AVI's CEO and president. "In partnership with TMT, we have now productively applied our RNA-based technologies and PMO-based chemistries to two formal rapid response exercises involving two different viral families. We look forward to continuing to work closely with TMT to refine our rapid response capabilities and further demonstrate the unique attributes and versatility of our intrinsically charge-neutral PMO-based chemistries versus other RNA-based approaches."

AVI's involvement in the dengue exercise required identifying target sequences against the virus using our antiviral database, designing RNA-based drug candidates utilizing proprietary derivatives of AVI's antisense PMO chemistry, and then manufacturing the candidates in sufficient quantities for preclinical testing. This was successfully accomplished in 11 days, demonstrating AVI's ability to rapidly respond to a real-world viral threat utilizing its RNA-based therapeutics platform. The initial exercise did not include preclinical evaluation of the AVI drug candidate.

About Dengue Virus Dengue and Dengue Hemorrhagic Fever ("DHF") are caused by one of four closely related viruses. DHF is a more severe form of dengue infection which can be fatal. Dengue virus is spread via the bite of mosquitoes and is now endemic to at least 100 countries in Asia, the Pacific, the Americas, Africa, and the Caribbean. It is estimated that there are up to 100 million cases of dengue worldwide each year. Symptoms of dengue include high fever, severe headache, joint pain, rash and mild bleeding. Symptoms of DHF include a fever lasting up to 7 days and other symptoms similar to dengue. When the fever declines, symptoms including vomiting, severe abdominal pain and difficulty breathing may develop, and marks a period of time when blood vessels may start to leak and cause bleeding. There is no specific treatment for dengue or DHF.

About the Defense Threat Reduction Agency The Defense Threat Reduction Agency (DTRA) was founded in 1998 to integrate and focus the capabilities of the Department of Defense (DoD) that address the threat by weapons of mass destruction (WMD). DTRA's mission is to safeguard the United States and its allies from chemical, biological, radiological, nuclear and high-yield explosive WMDs by providing capabilities to reduce, eliminate and counter the threat and mitigate its effects. DTRA combines DoD resources, expertise, and capabilities to ensure the United States remains ready and able to address the present and future WMD threats. For more information on DTRA, visit www.dtra.mil.

About Transformational Medical Technologies (TMT) TMT was created by DoD to protect the Warfighter from emerging and

genetically engineered biological threats by discovering and developing a wide range of medical countermeasures through enhanced medical research, development, and test and evaluation programs. The TMT Program Office is matrixed from the Joint Science and Technology Office -- DTRA and Joint Program Executive Office -- Chemical and Biological Defense with oversight from the Office of the Secretary of Defense. For more information on TMT, visit www.tmti-cbdefense.org.

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, the Company is able to target a broad range of diseases and disorders through distinct RNA-based mechanisms of action. Unlike other RNA-based approaches, AVI's 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 a highly differentiated RNA-based technology platform, AVI has built a pipeline of potentially transformative therapeutic agents, including one in the clinical development stage for the treatment of Duchenne muscular dystrophy.

Forward-Looking Statements and Information This press release contains statements that are forward-looking, including statements about AVI's partnership with TMT, AVI's PMO chemistry and other antisense-based technology and its ability to protect against the dengue virus, as well as its efficacy, potency and utility in the treatment of infectious diseases. These forward-looking statements involve risks and uncertainties, many of which are beyond AVI's control. Known risk factors include, among others: 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; the U.S. government could fail to fund, or terminate, any of AVI's government programs. 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 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.