AVI BioPharma Announces Significant Advance in the Potential Treatment of Ebola and Marburg Virus Infections

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Reproducible Survival Results Highlight AVI's New Chemistry and Patent Positions

For Immediate Release

PORTLAND, OR — May 13, 2008 — AVI BioPharma, Inc. (NASDAQ: AVII) today announced that treatment of non–human primates with either the antisense drug AVI–6002 or with the antisense drug AVI–6003, resulted in a reproducible and high rate of survival in the face of an otherwise lethal infection with Ebola or Marburg virus, respectively.

In repeated trials, monkeys were dosed with well–tolerated amounts of drug and survived a challenge of roughly 1000 times the minimum lethal dose. This level of infectious challenge normally results in uniform death of unprotected monkeys within 7 to 10 days. Treatment of Ebola infected animals with AVI–6002 resulted in 75 percent survival of the infected animals at 15 days post infection when the treatment period ended and circulating viral titer was below detectable levels. Treatment of Marburg infected animals with AVI–6003 resulted in 100 percent survival at 15 days.

The studies utilized experimental drugs based on a novel variation of AVI's proprietary NeuGene® chemistry referred to as NeuGene Plus in which anti–viral potency was enhanced by the addition of positively–charged components to the morpholino backbone. These new data are a result of continued studies conducted in collaboration with the US Army Medical Research Institute of Infectious Diseases (USAMRIID).

"Since the discovery of these viruses in 1967, no prior therapeutic approach has resulted in this level of survival in non–human primates," said Colonel George W. Korch, Jr., commander of USAMRIID. "We look forward to working with AVI to advance these drug candidates with the ultimate goal of submitting them for FDA approval."

"Ebola and Marburg are highly lethal viruses that must be handled in a biosafety level 4 laboratory," said Leslie Hudson, Ph.D., Chief Executive Officer of AVI. "Given that no effective therapeutic currently exists, we feel an ethical obligation to disclose these important observations now, with full results to be published in the peer–reviewed scientific literature."

The collaborative research effort between AVI and USAMRIID has been supported by a research contract, "A New Antiviral (Antisense) Platform Targeting Hemorrhagic Fever Viruses" from the Department of Defense's Transformational Medical Technologies Initiative. In addition to development of antiviral agents for Ebola and Marburg, AVI is receiving government funds to develop antiviral agents to treat Junin virus under this contract. Under separate government agreements, AVI is receiving support for programs in Dengue virus, anthrax and ricin, and additional applications in Ebola and Marburg.

About Ebola Zaire and Marburg Viruses

Ebola Zaire virus has been the most frequent cause of field outbreaks of Ebola hemorrhagic fever and is endemic to sub–Saharan Africa. Ebola hemorrhagic fever is a rare disease that can be fatal. Outbreaks first occurred in 1976 in Zaire and in western Sudan. A recent outbreak occurred in November of 2007 in Uganda ending in January of 2008. Infected individuals develop high fevers, headache, muscle aches, vomiting, and abdominal cramping. In fatal infections, bleeding is observed from the nose, eyes, rectum and urethra. There is uniform mortality once hemorrhagic signs appear as a result of exposure to the Ebola Zaire virus.

Marburg virus is the cause of Marburg hemorrhagic fever, a rare disease that occurs naturally in sub–Saharan Africa. Marburg hemorrhagic fever was first described in 1967 when outbreaks in Germany and the former Yugoslavia were linked to monkeys imported from Uganda. The symptoms include fever, diarrhea, vomiting, massive bleeding from multiple organs and shock. Death generally occurs between 5 and 10 days after the onset of symptoms.

Marburg and Ebola virus are both members of the filoviridae viral family and both are National Institutes of Allergy and Infectious Disease (NIAID) priority A pathogens and bioterrorism suspect agents of interest to Bioshield.

About USAMRIID

USAMRIID, located at Fort Detrick, Maryland, is the lead medical research laboratory for the U.S. Department of Defense 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 develops therapeutic products for the treatment of life–threatening diseases using third–generation NeuGene® antisense drugs and ESPRIT directed RNA alternative splicing technology. AVI's ESPRIT technology is initially being applied to

potential treatments for Duchenne muscular dystrophy. AVI's NeuGene compounds are also designed to treat cardiovascular restenosis in stent and coronary artery bypass graft (CABG) procedures. 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 Marburg Musoke and Ebola Zaire viruses. More information about AVI is available at www.avibio.com.