

## **AVI BioPharma Issued U.S. Patent Providing Key Coverage of RNA-Based Therapeutics as Antibacterial Agents**

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BOTHELL, WA, Sep 08, 2010 (MARKETWIRE via COMTEX) --

AVI BioPharma, Inc. (NASDAQ: AVII), a developer of RNA-based therapeutics, announced today that the United States Patent and Trademark Office issued AVI a patent granting key claims covering the use of phosphorodiamidate morpholino based oligomers (PMOs) as antibacterial agents. The patent, titled Antisense Antibacterial Method and Compound (No. 7,790,694), contains broad claims for the use of peptide-conjugated phosphorodiamidate morpholino oligomers (PPMOs) to target the acyl carrier protein (AcpP), a gene considered essential for bacterial growth in both gram positive and gram negative bacteria.

"This patent represents an important addition to our intellectual property estate and further demonstrates the innovation and therapeutic potential of our unique RNA-based technology in the development of a new class of anti-infective agents," said J. David Boyle II, interim President and CEO of AVI BioPharma. "We believe that RNA-based therapeutics employing our advanced PMO chemistries can become an important new category of antibacterial agents. Instead of directly targeting proteins like most traditional antibiotics, our PMO-based compounds target key microbial RNAs to inhibit protein expression at the gene translation level. By leveraging our differentiated capabilities, AVI plans to rapidly advance novel antibacterial candidates in this increasingly important therapeutic area."

AcpP is an important component in the synthesis of fatty acids necessary for bacterial growth. Data from several in vitro and in vivo pre-clinical studies performed by AVI across multiple bacterial species demonstrate the potential breadth of AVI's antibacterial platform. AVI recently published data, accompanied by a related editorial commentary in the Journal of Infectious Diseases describing positive preclinical results from studies utilizing an AVI oligomer targeting AcpP against Burkholderia cepacia complex.

Preclinical studies performed by AVI and collaborators using its PMO-based compounds have provided encouraging data against gram positive and negative bacteria, which includes Burkholderia cepacia as well as E. coli, Bacillus anthracis, Mycobacterium and Salmonella. In in vitro studies, AVI's compounds have demonstrated bactericidal activity against both antibiotic susceptible and resistant bacteria, and to date have not shown cross-resistance to other classes of antibiotics.

### About AVI's Advanced Phosphorodiamidate Morpholino Oligomer Chemistries

The core PMO-based chemistry was originally pioneered by AVI and provides a unique and versatile platform for developing advanced chemistries to support the development of a range of therapeutic candidates that target different types of RNA.

Advanced generation PMO-based antisense chemistries with potentially superior drug-like performance characteristics have been developed by AVI and are being applied to the discovery and development of new therapeutic candidates. AVI's advanced chemistries include the PPMO, PMOplus(TM) and PMO-X, each of which provides potential improvements to various drug-like characteristics to therapeutic candidates, such as potency, bioavailability, therapeutic index and tissue selectivity. AVI continues to research additional chemistry advances to further optimize its core proprietary technology platforms as well as to develop further novel analogues that could provide additional improvement to a range of beneficial characteristics, including the above.

### 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](http://www.avibio.com).

### Forward-Looking Statements and Information

This press release contains statements that are forward-looking, including statements about AVI's PPMO, PMOplus(TM) and PMO-X chemistries and other antisense-based technology and their efficacy, potency and utility in the treatment of infectious diseases, and their 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, including that preclinical and clinical trials may not demonstrate safety and efficacy of any of our drug candidates and/or our antisense-based technology platform, and any of our 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. Further, the results described in this press release are not predictive of future outcomes and may not be repeated in later preclinical and clinical trials.

SOURCE: AVI BioPharma, Inc.