AVI BioPharma Announces Publication of Positive Results from New Class of Antibiotics Using NEUGENE Antisense Technology

8/9/06

PORTLAND, Ore., Aug 09, 2006 (BUSINESS WIRE) -- AVI BioPharma, Inc. (Nasdaq:AVII) today announced the publication of positive preclinical results from a new class of antisense-based antibiotics, called NeuBiotics. The article, titled "Gene-Specific Effects of Antisense Phosphorodiamidate Morpholino Oligomer-Peptide Conjugates on Escherichia coli and Salmonella enterica Serovar Typhimurium in Pure Culture and in Tissue Culture," appears in the August issue of the journal Antimicrobial Agents and Chemotherapy, Vol. 50, No. 8, p. 2789-2796. AVI research scientists Bruce Geller, Ph.D., and Lucas Tilley authored the paper.

Highlights from the NeuBiotic study include the following:

-- AVI has developed peptide conjugates that are effective in delivering NeuBiotic compounds directly into bacteria.

-- NeuBiotics are both specific and effective in blocking the bacterial genetic target.

-- Targeted bacteria can be eliminated without causing toxicity to human cells.

-- NeuBiotics eliminated both E. coli and S. typhimurium infection in cell culture, which demonstrates the broad applicability of the NeuBiotic approach.

"Our antisense approach to developing a new class of antibiotics has enormous potential to treat infections caused by emerging strains of antibiotic-resistant, gram-positive bacteria," said Patrick L. Iversen, Ph.D., senior vice president of research and development at AVI. "Based on these results, we are now in a strong position to develop NeuBiotics for a variety of microbial infections."

AVI recently announced that it was issued U.S. Patent No. 7,049,431, titled "Antisense Antibacterial Cell Division Composition and Method," providing broad protection for NEUGENE(R) antisense compounds targeting bacterial cell division and cell cycle genes for the development of this new class of antibiotics.

NeuBiotics are antisense antibiotics composed of relatively short (10-13 subunits) NEUGENE antisense polymers covalently linked to bacteria-permeating peptides. The antisense oligomers target and disable essential bacterial gene function, and the delivery peptides improve the antisense uptake into bacterial cells.

The Growing Problem of Antibiotic Resistance

Antibiotic resistance is an increasing threat around the globe. According to the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO), nearly all significant bacterial infections in the world are becoming resistant to the most commonly prescribed antibiotic treatments. Consequences of resistance include longer-lasting illness and an increased risk of death, more-frequent doctor visits or extended hospital stays, and the need for more expensive and toxic medications. In addition, according to the WHO, treatment failures increase the numbers of infected people moving through a community. This in turn exposes the general population to prolonged risk of contracting a resistant strain of infection.

About AVI BioPharma

AVI BioPharma develops therapeutic products for the treatment of life-threatening diseases using third-generation NEUGENE antisense drugs. AVI's lead NEUGENE antisense compound is designed to target cell proliferation disorders, including cardiovascular restenosis, cancer and polycystic kidney disease. 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 West Nile virus, hepatitis C virus, dengue virus, Ebola virus and influenza A virus. AVI has introduced a NEUGENE-based exon-skipping technology called ESPRIT therapy. 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.

SOURCE: AVI BioPharma, Inc.

AVI BioPharma, Inc.
Michael Hubbard, 503-227-0554
hubbard@avibio.com
or
Lippert/Heilshorn & Associates Inc.
Jody Cain, 310-691-7100 (Investors)
jcain@lhai.com
Brandi Floberg, 310-691-7100 (Investors)
bfloberg@lhai.com
or

Waggener Edstrom Worldwide
Bioscience and Healthcare Practice
Jenny Moede, 503-443-7000 (Press)
jmoede@waggeneredstrom.com