AVI BioPharma and Exelixis Form Strategic Alliance on Functional Genomics and Antisense Drug Development

April 27, 2001

AVI BioPharma, Inc. (Nasdaq: AVII, AVIIW, AVIIZ) and Exelixis Inc. (Nasdaq: EXEL) announced today that they entered a strategic alliance for antisense drug discovery research and development. Under the terms of the five-year agreement, AVI will provide its proprietary NEUGENE® morpholino antisense agents to Exelixis and its German subsidiary, Artemis Pharmaceuticals GmbH, in order to systematically and comprehensively define gene function in vivo on a genome-wide scale in zebrafish and other model organisms.

Exelixis will apply its expertise in genetic model systems to discover, validate and screen novel targets suitable for inhibition by antisense therapeutics. AVI will design and synthesize NEUGENE morpholinos for use as drugs and conduct preclinical and clinical studies on antisense drug candidates arising from the collaboration. The two companies will jointly own, and Exelixis has an option to co-develop with AVI, certain novel antisense products that arise from the alliance.

NEUGENE antisense agents have been shown to work very effectively in zebrafish and other animal model systems to characterize gene function, and will be used by Exelixis and Artemis in high-throughput gene inactivation. This important technology, in conjunction with other proprietary tools, will facilitate functional analysis of the majority of the 30,000 genes in the zebrafish genome. Zebrafish are a favorite species of developmental biologists because of their rapid growth and transparent bodies that allow easy study of many body processes such as angiogenesis.

Denis R. Burger, Ph.D., Chief Executive Officer of AVI said, "Key to this agreement is the quick development time it promises. When we define the function of a gene with NEUGENES, we don't have to go back and spend three to five years in drug development, because the NEUGENE antisense agent that was used to define gene function is the drug. We believe our targeting advantage with the NEUGENE morpholino technology, a leading antisense technology, has the potential to rapidly define gene function in a single step, in a manner that we believe eliminates the trial and error methods that are so problematic with previous generations of antisense."

AVI is the only genomics-based drug development company working with third-generation antisense technology. Exelixis has the broadest available array of proprietary model systems and comparative genomics technologies, which it is using as a basis for its drug development and partnering activities. With this collaboration in place, AVI and Exelixis believe they strengthen their leading roles in functional genomics-based drug discovery.

Peter Stadler, Ph.D., Managing Director of Artemis, and Exelixis board member stated, "Exelixis, through Artemis, has the most advanced zebrafish genetics program in the world. We recently have completed the largest genetic screen ever carried out in a vertebrate system, and we are convinced that AVI's NEUGENE morpholinos are an extremely powerful tool to identify and validate high-quality drug targets for a number of major human diseases. We plan to immediately use these tools in our angiogenesis and oncology programs and will expand their use into other diseases as we move forward."

In addition to licensing and development rights, Exelixis will pay AVI for the manufacture of antisense agents it uses for gene function validation through the five-year term of the agreement. Additional co-development and other financial terms of the alliance have not been disclosed.

About AVI BioPharma Inc.
AVI BioPharma develops therapeutic products for the treatment of life-threatening diseases using two technology platforms: cancer immunotherapy and gene-targeted drugs. Its lead clinical agent, AVICINE, a therapeutic cancer vaccine, has completed enrollment in a Phase II trial in pancreatic cancer and is in a Phase III pivotal trial in colorectal cancer. The first application of its NEUGENE compounds, Resten-NG, is designed to treat cancer, cardiovascular restenosis and other cell proliferation disorders by inhibiting the production of a cellular transcription factor, c-myc. It is currently in Phase II trials for restenosis. More information about AVI is available on the Company's website at http://www.avibio.com.

About Exelixis, Inc.
Exelixis is a leading life sciences biotechnology company focused on product development through its expertise in comparative genomics and model system genetics. The acquisition of Artemis, scheduled to close at the end of April, creates a single, worldwide biopharmaceutical company with a broad array of biological systems and other tools for the rapid identification of genes and accurate assessment of their role in modulating disease processes. Exelixis' proprietary model systems and comparative genomics technologies address gene function by using biologically relevant functional genomics information very early on in the process to rapidly, efficiently and cost-effectively translate sequence data to knowledge about the function of genes and the proteins that they encode. The company has a significant internal cancer discovery and drug development program. Exelixis believes that its technology is broadly applicable to all life science industries including pharmaceutical, diagnostic, agricultural biotechnology and animal health and the company has active partnerships with Aventis, Bayer, Pharmacia, Bristol-Myers Squibb and Dow AgroSciences.

"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, but not limited to, information regarding the ability of Exelixis to use the licensed technology for high-throughput gene inactivation in zebrafish, the ability of AVI to develop unique antisense compounds and the ability of the parties to reach agreement on co-development terms for compounds, if any, that are identified in this collaboration. These forward-looking statements involve risks and uncertainties that could cause the results of Exelixis and AVI to differ materially from current expectations. Other risks are detailed in the companies respective Securities and Exchange Commission filings, including Exelixis' Annual Report on Form 10-K for the year ended December 31, 2000 and AVI's Annual Report on Form 10-K for the year ended December 31, 2000 as filed with the Securities and Exchange Commission.