Bio-Path Holdings, Inc.

Bio-Path Holdings Announces Dosing of First Patient in a Phase I Clinical Trial of its Liposomal Grb-2 Cancer Drug Candidate

FOR IMMEDIATE RELEASE

July 29, 2010 HOUSTON, TX – Bio-Path Holdings, Inc., (OTC BB: BPTH) ("Bio-Path"), a biotechnology company with drug development operations in Houston, Texas, announced today that the first patient has been dosed in a Phase I study of its cancer drug candidate, Liposomal Grb-2 (L-Grb-2 or BP-100-1.01), in patients with Acute Myeloid Leukemia (AML), Chronic Myelogenous Leukemia (CML), Acute Lymphoblastic Leukemia (ALL) or Myelodysplastic Syndrome (MDS). Bio-Path is developing a neutral lipid-based liposome delivery technology for nucleic acid cancer drugs (including antisense and siRNA molecules), a delivery technology that forms microscopic-sized vehicles to safely deliver these drugs to their intended target cancer cells.

Growth factor receptor bound protein-2 (Grb-2) is an adaptor protein that has shown to be involved with several types of cancer. The main function of Grb-2 is to link activated tyrosine kinase to Ras activation. The Grb-2 gene is mapped to the human chromosome region known to be duplicated in leukemia and solid tumors, including breast cancer. The strategy employed using Bio-Path's L-Grb-2 antisense drug candidate is to inhibit Grb-2 expression in the cell utilizing liposome-incorporated, nuclease-resistant antisense oligonucleotides specific for Grb-2 messenger-RNA. The Grb-2 antisense molecule blocks binding of ribosomes to the Grb-2 mRNA, thereby impairing Grb-2 protein production.

The Phase I clinical trial is a dose-escalating study to determine the safety and tolerance of escalating doses of L-Grb-2. The study will also determine the optimal biologically active dose for further development. The pharmacokinetics of L-Grb-2 in patients will be studied, making it possible to investigate whether the delivery technology performs as expected based on pre-clinical studies in animals. The trial will evaluate five doses of L-Grb-2 and 18 to 30 patients may be accrued into the study. The clinical trial is being conducted at The University of Texas M. D. Anderson Cancer Center.

Peter Nielsen, President and Chief Executive Officer of Bio-Path commented, "Liposomal Grb-2 is the first cancer drug candidate in Bio-Path's lipid vehicle delivery platform to begin clinical trials, so this is a major step in the development of the Company's technology. Liposomal Grb-2 has the potential to become a substantial cancer drug product. In addition to treating the leukemia diseases in this trial, L-Grb-2 also has the potential to be developed for treatment of breast cancer and other solid tumors."

"A second important outcome for the Phase I clinical trial is the ability to assess for the first time the performance of the Company's delivery technology platform in human patients. Being platform technology, a successful demonstration of the delivery technology in this study will allow the Company to immediately begin expanding Bio-Path's drug candidates by simply applying the delivery technology template to multiple new drug product targets. In this manner, Bio-Path can quickly build an attractive drug product pipeline with multiple drug product candidates for treating cancer as well as treating other important diseases including diabetes, cardiovascular conditions and neuromuscular disorders."

Bio-Path's drug delivery technology involves microscopic-sized liposome particles that distribute nucleic acid drugs systemically and safely throughout the human body, via simple intravenous infusion. The delivery technology can be applied both to double stranded (siRNA) and single stranded (antisense) nucleic acid compounds with the potential to revolutionize the treatment of cancer and other diseases where drugable targets of disease are well characterized. Bio-Path also anticipates developing liposome tumor targeting technology, representing next-generation enhancements to the Company's core liposome delivery technology.

About Bio-Path Holdings, Inc.

Bio-Path is a drug development company focused on developing products licensed to it from The University of Texas M. D. Anderson Cancer Center for the treatment of cancer. The Company is currently developing three cancer drug product candidates. The first lead cancer drug product, L-Grb-2 (antisense), is currently being studied in a Phase I human trial. Bio-Path's second drug candidate, also an antisense drug, is ready for the clinic, and its third candidate is a siRNA cancer drug that is in the final pre-clinical development stage.

Any statements that are not historical facts contained in this release are forward-looking statements that involve risks and uncertainties, including Bio-Path's ability to raise needed additional capital on a timely basis in order for it to continue its operations, have success in the clinical development of its technologies, the timing of enrollment and release of data in such clinical studies and the accuracy of such data, limited patient populations of early stage clinical studies and the possibility that results from later stage clinical trials with much larger patient populations may not be consistent with earlier stage clinical trials, and such other risks which are identified in the Company's most recent Annual Report on Form 10-K and in any subsequent quarterly reports on Form 10-Q. These documents are available on request from Bio-Path Holdings or at www.sec.gov. Bio-Path disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

For more information, please visit the Company's website at http://www.biopathholdings.com.

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