



## **Bio-Path Holdings' Liposomal Grb-2 Featured in Peer-Reviewed Journal "Expert Opinion on Drug Delivery"**

**HOUSTON, TX, January 7, 2015** – Bio-Path Holdings, Inc., (NASDAQ: BPTH) ("Bio-Path"), a biotechnology company developing a liposomal delivery technology for nucleic acid cancer drugs, today announced that data from pre-clinical studies of BP-100-1.01 (Liposomal Grb-2) were featured in the peer-reviewed journal *Expert Opinion on Drug Delivery*.

The paper titled "Liposomal delivery of nucleic acid-based anticancer therapeutics: BP-100-1.01" was authored by Ana Tari, Ph.D., Director Pre-clinical Operations and Research at Bio-Path, and Jorge Cortes, M.D., Deputy Department Chair, Department of Leukemia, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center. The review article can be accessed at: <http://www.biopathholdings.com/pdf/ExpertOpiniononDrugDelivery.pdf>.

Antisense oligonucleotides, siRNA and anti-microRNA are designed to selectively bind to target mRNAs, and silence disease-causing or associated proteins. The clinical development of nucleic acid drugs has been limited by their poor bioavailability. This review article examined strategies that have been utilized to improve the bioavailability of nucleic acid drugs, particularly, the design of cationic and neutral lipid nanoparticles that enable the systemic delivery of nucleic acids in vivo, and the proof-of-concept evidence that intravenous administration of nucleic acids incorporated into lipid nanoparticles leads to decreased expression of target genes in humans.

The paper featured pre-clinical studies of Liposomal Grb-2 antisense oligo incorporated into neutral liposomes and concluded that the drug is a specific Grb-2 inhibitor. Grb-2 is an attractive target because, despite not having specific enzymatic activity of its own, it serves as a linker to transduce signals from a number of oncogenic proteins that result in the activation of the Ras signaling pathway. Early results of a Phase I trial in leukemia suggest that Liposomal Grb-2 effectively reduces Grb-2 protein expression, resulting in inhibition of downstream Ras effectors such as phosphorylated Erk (extracellular signals regulated kinases) at doses that have not resulted in dose-limiting toxicity. Studies with Liposomal Grb-2 are continuing and expanding to other indications, as well as combinations to fully understand the role Liposomal Grb-2 antisense may have in cancer therapy.

"The publication of data from our lead compound, Liposomal Grb-2, in this respected peer-reviewed journal emphasizes the potential importance Bio-Path's proprietary neutral liposomal delivery technology may have in oncology," said Peter Nielsen, Chief Executive Officer of Bio-Path Holdings, Inc. "As we move Liposomal Grb-2 through the clinic, we will continue to share our findings with the medical community through peer-reviewed publications and conferences, increasing the exposure of our unique technology and drug candidates and expanding our partnering opportunities."

## **About Bio-Path Holdings, Inc.**

Bio-Path is a biotechnology company focused on developing therapeutic products utilizing its proprietary liposomal delivery technology designed to systemically distribute nucleic acid drugs throughout the human body with a simple intravenous transfusion. Bio-Path's lead product candidate, Liposomal Grb-2, is in a Phase I study for blood cancers and in preclinical studies for triple negative and inflammatory breast cancers. Bio-Path's second drug candidate, also a liposomal antisense drug, is ready for the clinic where it will be evaluated in lymphoma and solid tumors.

*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](http://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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