BIO-PATH HOLDINGS REPORTS SECOND QUARTER 2020 FINANCIAL RESULTS

Conference Call to be Held Today at 8:30 A.M. ET

HOUSTON—August 14, 2020 – Bio-Path Holdings, Inc., (NASDAQ:BPTH), a biotechnology company leveraging its proprietary DNAbilize™ liposomal delivery and antisense technology to develop a portfolio of targeted nucleic acid cancer drugs, today announced its financial results for the second quarter ended June 30, 2020 and provided an update on recent corporate developments.

"Despite the challenges from the COVID-19 pandemic, we were able to continue to make significant progress across our clinical development pipeline. Most importantly, as recently announced, we dosed the first patient in Stage 2 of our Phase 2 trial of prexigebersen as a combination treatment for patients suffering with acute myeloid leukemia (AML)," said Peter Nielsen, President and Chief Executive Officer of Bio-Path Holdings. "We believe that this unique clinical trial design offers multiple potential paths to registration. We are encouraged by earlier safety and efficacy data that prexigebersen in combination with latest standard of care should significantly enhance patient outcomes in AML patients who otherwise have limited treatment options."

"As we look to the balance of the year, we will continue to advance our studies for prexigebersen and BP-1002. We look forward to initiating a Phase 1 study of prexigebersen for the treatment of solid tumors by year end and remain steadfast in our goal to bring these potentially lifesaving therapies to patients in need," continued Mr. Nielsen.

Recent Corporate Highlights

- **Announced First Patient Dosed in Amended Stage 2 of the Phase 2 Clinical Trial Evaluating Prexigebersen in Acute Myeloid Leukemia.** On August 13, 2020, Bio-Path announced the enrollment and dosing of the first patient in the amended Stage 2 of the Phase 2 clinical study of prexigebersen (BP1001), a liposomal Grb2 antisense, for the treatment of AML in combination with frontline therapy decitabine and venetoclax.

- **Presented at the 2020 American Society of Clinical Oncology Annual Meeting**. In May, Bio-Path presented a virtual poster presentation at the 2020 American Society of Clinical Oncology (ASCO) Annual Meeting. Dr. Maro Ohanian, Department of Leukemia, University of Texas M.D. Anderson Cancer Center, discussed the Phase 2 study design of BP1001 (liposomal Grb2 antisense), Bio-Path's lead drug candidate, in combination with decitabine as a potential treatment for patients diagnosed with AML or high-risk myelodysplastic syndrome.

Financial Results for the Second Quarter Ended June 30, 2020

- The Company reported a net loss of $2.0 million, or $0.55 per share, for the three months ended June 30, 2020, compared to a net loss of $2.5 million, or $0.87 per share, for the three months ended June 30, 2019.

- Research and development expenses for the three months ended June 30, 2020 decreased to $1.0 million, compared to $1.5 million for the three months ended June 30, 2019 primarily due to timing of activities related to our Phase 2 clinical trial of prexigebersen in AML.

- General and administrative expenses for the three months ended June 30, 2020 were $1.0 million, consistent with the comparable period in 2019.

- As of June 30, 2020, the Company had cash of $14.4 million, compared to $20.4 million at December 31, 2019. Net cash used in operating activities for the six months ended June 30, 2020 was $6.0 million compared to $4.2 million for the comparable period in 2019.

Conference Call and Webcast Information

Bio-Path Holdings will host a conference call and webcast today at 8:30 a.m. ET to review these second quarter 2020 financial results and to provide a general update on the Company. To access the conference call please dial (844) 815-4963 (domestic) or (210) 229-8838 (international) and refer to the conference ID 3237808. A live audio webcast of the call and the archived webcast will be available in the Media section of the Company's website at www.biopathholdings.com.

About Bio-Path Holdings, Inc.

Bio-Path is a biotechnology company developing DNAbilize®, a novel technology that has yielded a pipeline of RNAi nanoparticle drugs that can be administered with a simple intravenous transfusion. Bio-Path's lead product candidate, prexigebersen (BP1001, targeting the Grb2 protein), is in a Phase 2 study for blood cancers and prexigebersen-A, a drug product modification of prexigebersen, is under consideration by the FDA to commence Phase 1 studies in solid tumors. This is followed by BP1002, targeting the Bcl-2 protein, where it will be evaluated in lymphoma and solid tumors clinical studies.

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

Forward-Looking Statements

This press release contains forward-looking statements that are made pursuant to the safe harbor provisions of the federal securities laws. These statements are based on

management's current expectations and accordingly are subject to uncertainty and changes in circumstances. Any express or implied statements contained in this press release that are not statements of historical fact may be deemed to be forward-looking statements. Any statements that are not historical facts contained in this release are forward-looking statements that involve risks and uncertainties, including the impact, risks and uncertainties related to COVID-19 and actions taken by governmental authorities or others in connection therewith, 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 Bio-Path's most recent Annual Report on Form 10- K, in any subsequent quarterly reports on Form 10-Q and in other reports that Bio-Path files with the Securities and Exchange Commission from time to time. 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.

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