

BIO-PATH HOLDINGS REPORTS FIRST QUARTER 2023 FINANCIAL RESULTS

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

HOUSTON—May 12, 2023 – 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 first quarter ended March 31, 2023 and provided an update on recent corporate developments.

"We continue to make important progress advancing our clinical programs as we await topline results from several key cohorts in our Phase 1/1b study of BP1001-A in solid tumors, Phase 1/1b study of BP1002 in relapsed/refractory AML, and Phase 2 study of prexigebersen in AML," said Peter Nielsen, President and Chief Executive Officer of Bio-Path Holdings. "Despite advances in the field, cancer deaths continue to rise. We believe our DNAbilize platform can overcome the challenges with current treatment options to address the urgent need for safe and effective new treatments."

Important Near-Term Clinical Milestones

BP1001-A Phase 1/1b Clinical Trial in Solid Tumors

 Important trial with advanced or recurrent solid tumors, including ovarian and uterine, pancreatic and breast cancer with initial cohort completion and data readout currently expected mid-year.

BP1002 Phase 1/1b Clinical Trial in Relapsed/Refractory AML

• Focus on patients who relapsed on venetoclax treatment with initial cohort completion and readout expected mid-year.

Prexigebersen (BP1001) Phase 2 Clinical Trial in AML

- Two of the three cohorts in the clinical trial already exceed the minimum efficacy required for enrollment expansion.
- Assess safety and efficacy of each cohort treatment combination therapy with potential to qualify for expedited program status after cohort's initial interim analysis, which are expected to commence by cohort in the second quarter of 2023.

Financial Results for the First Quarter Ended March 31, 2023

• The Company reported a net loss of \$5.3 million, or \$0.66 per share, for the three months ended March 31, 2023, compared to a net loss of \$3.4 million, or \$0.47 per share, for the three months ended March 31, 2022.

- Research and development expense for the three months ended March 31, 2023 increased to \$4.0 million, compared to \$2.1 million for the three months ended March 31, 2022, primarily due to manufacturing expenses related to drug product releases during the quarter.
- General and administrative expense for both the three months ended March 31, 2023 and March 31, 2022 was \$1.3 million.
- As of March 31, 2023, the Company had cash of \$6.7 million, compared to \$10.4 million as of December 31, 2022. Net cash used in operating activities for the three months ended March 31, 2023 was \$3.7 million, compared to \$2.5 million for the comparable period in 2022.

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 first quarter 2023 financial results and to provide a general update on the Company. To access the conference call please dial (833) 630-1956 (domestic) or (412) 317-1837 (international). 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 a Phase 1/1b study of BP1001-A, a drug product modification of prexigebersen, in solid tumors has commenced. The Company's second product, BP1002, which targets the Bcl-2 protein, is being evaluated for the treatment of blood cancers and solid tumors, including lymphoma and acute myeloid leukemia. In addition, an IND application is expected to be filed for BP1003, a novel liposome-incorporated STAT3 antisense oligodeoxynucleotide developed by Bio-Path as a specific inhibitor of STAT3, in 2023.

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 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, 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, the maintenance of intellectual property rights, that patents relating to existing or future patent applications will be issued or that any issued patents will provide meaningful protection of our drug candidates, the impact, risks and uncertainties related to global pandemics, including the COVID-19 pandemic, and actions taken by governmental authorities or others in connection therewith, 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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