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MAIA Biotechnology Reveals Higher Anticancer Potency of Telomere-Targeting Compounds Derived from THIO

Study results warrant further in vivo in-depth investigation of THIO conjugates as second generation cancer therapies

CHICAGO--(BUSINESS WIRE)-- MAIA Biotechnology, Inc. (NYSE American: MAIA), a clinical stage company developing telomere-targeting immunotherapies for cancer, today announced positive results from an investigational new drug-enabling study of the Company's second-generation telomere-targeting agents derived from lipid-modified THIO molecules. MAIA's second-generation telomere-targeting molecule program seeks to discover new compounds with improved specificity towards cancer cells relative to normal cells, potentially increased anticancer activity, and stronger chemistry manufacturing control characteristics.

"In this study we demonstrated broad-spectrum therapeutically-attractive opportunities for specific telomeric stress-inducing treatments. The results demonstrate an increase in innate sensing and adaptive antitumor immunity via the self-produced chemical modification of cancer cell telomeres by THIO," said MAIA's Chief Scientific Officer Sergei Gryaznov, Ph.D.

The new THIO prodrugs are lipid conjugated compounds derived from THIO. The prodrugs are pharmacologically inactive compounds that, after intake, are metabolized into a pharmacologically active drug. In vitro, these compounds were able to induce telomeric DNA damage responses that were similar or more profound than those for THIO, as assessed by quantitative Telomere Damage Induced Foci assays (TIF formation). Efficient formation of micronuclei structures was also observed. Initial in vivo evaluation of the anticancer activity, conducted in human xenografts and murine syngeneic models of colorectal cancer, demonstrated potent anticancer activity at relatively low dose levels for one of the lead lipid conjugates.

"Our findings from this study demonstrate the significance of telomeric DNA structural and functional integrity for cancer cell survival. The high potency of these THIO-like agents warrants further in vivo in-depth investigation as a potential next generation of telomerase-mediated telomere-targeting compounds," said Vlad Vitoc, M.D., MAIA's Chief Executive Officer.

The findings were presented by Dr. Gryaznov at the International Biochemistry Congress 2023, organized by the Turkish Biochemical Society and held in Turkey. The findings are detailed in the [abstract available in the event website](#) under Speakers, Sergei M. Gryaznov and Lecture Abstract sections.

The telomere-centric action of MAIA's lead candidate THIO is being evaluated in Phase 2 clinical trials (THIO-101) in non-small-cell lung carcinoma (NSCLC) patients.

About THIO

THIO (6-thio-dG or 6-thio-2'-deoxyguanosine) is a first-in-class investigational telomere-targeting agent currently in clinical development to evaluate its activity in Non-Small Cell Lung Cancer (NSCLC). Telomeres, along with the enzyme telomerase, play a fundamental role in the survival of cancer cells and their resistance to current therapies. The modified nucleotide 6-thio-2'-deoxyguanosine (THIO) induces telomerase-dependent telomeric DNA modification, DNA damage responses, and selective cancer cell death. THIO-damaged telomeric fragments accumulate in cytosolic micronuclei and activates both innate (cGAS/STING) and adaptive (T-cell) immune responses. The sequential treatment with THIO followed by PD-(L)1 inhibitors resulted in profound and persistent tumor regression in advanced, in vivo cancer models by induction of cancer type-specific immune memory. THIO is presently developed as a second or later line of treatment for NSCLC for patients that have progressed beyond the standard-of-care regimen of existing checkpoint inhibitors.

About MAIA Biotechnology, Inc.

MAIA is a targeted therapy, immuno-oncology company focused on the development and commercialization of potential first-in-class drugs with novel mechanisms of action that are intended to meaningfully improve and extend the lives of people with cancer. Our lead program is THIO, a potential first-in-class cancer telomere targeting agent in clinical development for the treatment of NSCLC patients with telomerase-positive cancer cells. For more information, please visit www.maiabiotech.com.

Forward Looking Statements

MAIA cautions that all statements, other than statements of historical facts contained in this press release, are forward-looking statements. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels or activity, performance or achievements to be materially different from those anticipated by such statements. The use of words such as "may," "might," "will," "should," "could," "expect," "plan," "anticipate," "believe," "estimate," "project," "intend," "future," "potential," or "continue," and other similar expressions are intended to identify forward looking statements. However, the absence of these words does not mean that statements are not forward-looking. For example, all statements we make regarding (i) the initiation, timing, cost, progress and results of our preclinical and clinical studies and our research and development programs, (ii) our ability to advance product candidates into, and successfully complete, clinical studies, (iii) the timing or likelihood of regulatory filings and approvals, (iv) our ability to develop, manufacture and commercialize our product candidates and to improve the manufacturing process, (v) the rate and degree of market acceptance of our product candidates, (vi) the size and growth potential of the markets for our product candidates and our ability to serve those markets, and (vii) our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates, are forward looking. All forward-looking statements are based on current estimates, assumptions and expectations by our management that, although we believe to be reasonable, are inherently uncertain. Any forward-looking statement expressing an expectation or belief as to future events is expressed in good faith and believed to be reasonable at the time such

forward-looking statement is made. However, these statements are not guarantees of future events and are subject to risks and uncertainties and other factors beyond our control that may cause actual results to differ materially from those expressed in any forward-looking statement. Any forward-looking statement speaks only as of the date on which it was made. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law. In this release, unless the context requires otherwise, "MAIA," "Company," "we," "our," and "us" refers to MAIA Biotechnology, Inc. and its subsidiaries.

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Investor Inquiries

MAIA Biotechnology

Joseph McGuire

Chief Financial Officer

jmcguire@maiabiotech.com

904-228-2603

Investor Relations

ir@maiabiotech.com

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