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Anixa Biosciences and MolGenie Announce Early Potency Analysis of SARS-CoV-2 Protease Inhibitor

Anixa's compound may be five times more potent than the protease inhibitor in Pfizer's PAXLOVID™ at inhibiting Mpro, the main protease of SARS-CoV-2

SAN JOSE, Calif. and STUTTGART, Germany, Jan. 24, 2022 /PRNewswire/ --[Anixa Biosciences, Inc.](#) (NASDAQ: ANIX), a biotechnology company focused on the treatment and prevention of cancer and infectious diseases, today announced that the company and its partner, MolGenie GmbH, have synthesized a compound that appears to be considerably more potent than nirmatrelvir at inhibiting M^{pro}, the main protease of the SARS-CoV-2 virus. Nirmatrelvir is the main component of Pfizer's PAXLOVID™, which was recently authorized to treat COVID-19. PAXLOVID also includes ritonavir, which is an HIV drug.

"We're pleased to report additional progress on our COVID-19 program," said Dr. Amit Kumar, President, CEO and Chairman of Anixa Biosciences. "Currently authorized oral antivirals for the treatment of COVID-19 are repurposed compounds originally designed to target other viruses. Anixa's compounds have been designed specifically to target the enzymes of SARS-CoV-2. In this study, we performed a head-to-head analysis via a Fluorescence Resonance Energy Transfer (FRET) assay that tested the ability of compounds to inhibit the function of M^{pro}. These *in vitro* assays were conducted outside of a cellular or living organism context. The results from this head-to-head *in vitro* analysis suggest that our compound may be more effective than the authorized protease inhibitors. We are now testing the compound in cellular assays as well as animal studies. In addition, the structure of this lead compound indicates that additional modifications could produce even more potent compounds. We are engaged in synthesizing additional compounds for further testing."

Dr. Kumar added, "Anixa's compounds target the same protease as PAXLOVID, as well as use a similar mechanism of action, so we believe that the effectiveness of PAXLOVID in the clinic provides early proof-of-concept for Anixa's approach. We look forward to moving these compounds forward and sharing more data in the future."

Since the crystal structure of M^{pro} of SARS-CoV-2 was published, Anixa has worked in partnership with MolGenie to identify compounds that could inhibit this enzyme. Notably, the program is not reliant on targeting the SARS-CoV-2 spike protein. Recently identified variants, like Delta and Omicron, are characterized by mutations in the spike protein, but M^{pro} is largely conserved across all of these variants. Therefore, Anixa expects its compounds will be effective against all the currently known variants.

Dr. Lutz Weber, President and Chief Executive Officer of MolGenie, added, "We started our research by using artificial intelligence to find compounds that could target M^{pro}, which we knew would be an important target in the fight against this virus. This head-to-head analysis with nirmatrelvir is an encouraging early sign of the validity of our strategy. It's clear that more COVID-19 therapies—particularly inexpensive, room temperature-stable, oral therapies with improved pharmaco-dynamic properties—are needed, and we are proud to be part of this important effort."

About MolGenie GmbH

MolGenie is using and developing compound design technologies aiming at drug-like and selective small molecules that exhibit a clear structure-activity relationship and have the promise of good tolerability and oral bioavailability. MolGenie has been formed in 2021 to use its network of experts in drug discovery and development to advance interesting new therapeutic agents towards IND applications. Additional information is available at www.molgenie.com.

About Anixa Biosciences, Inc.

Anixa is a publicly-traded biotechnology company developing a number of programs addressing cancer and infectious disease. Anixa's therapeutics portfolio includes a cancer immunotherapy program which uses a novel type of CAR-T, known as chimeric endocrine receptor T-cell (CER-T) technology, and a COVID-19 therapeutics program focused on inhibiting certain viral protein function. The company's vaccine portfolio includes a vaccine to prevent breast cancer – specifically triple negative breast cancer (TNBC), the most lethal form of the disease – and a vaccine to prevent ovarian cancer. These vaccine technologies focus on immunizing against specific proteins that have been found to be expressed in certain forms of cancer. Anixa continually examines emerging technologies in complementary fields for further development and commercialization. Additional information is available at www.anixa.com.

Forward-Looking Statements

Statements that are not historical fact may be considered forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are not statements of historical facts, but rather reflect Anixa's current expectations concerning future events and results. We generally use the words "believes," "expects," "intends," "plans," "anticipates," "likely," "will" and similar expressions to identify forward-looking statements. Such forward-looking statements, including those concerning our expectations, involve risks, uncertainties and other factors, some of which are beyond our control, which may cause our actual results, performance or achievements, or industry results, to be materially different from any future results, performance, or achievements expressed or implied by such forward-looking statements. These risks, uncertainties and factors include, but are not limited to, those factors set forth in "Item 1A - Risk Factors" and other sections of our most recent Annual Report on Form 10-K as well as in our Quarterly

Reports on Form 10-Q and Current Reports on Form 8-K. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. You are cautioned not to unduly rely on such forward-looking statements when evaluating the information presented in this press release.

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