



Purple Biotech Presents Additional Mechanism of Action Data for NT219 at American Association of Cancer Research 2021 Annual Meeting

TEL AVIV, Israel, April 13, 2021 (GLOBE NEWSWIRE) -- Purple Biotech Ltd. ("Purple Biotech" or the "Company") (NASDAQ/TSE: PPBT), a clinical-stage company developing first-in-class, effective and durable therapies by overcoming tumor immune evasion and drug resistance, today announced that additional preclinical data supporting the mechanism of action of NT219, a dual inhibitor, novel small molecule that simultaneously targets IRS1/2 and STAT3, were presented in a poster entitled "Adaptation of colorectal cancer cells to the brain microenvironment: The role of IRS2," at the American Association of Cancer Research (AACR) 2021 Annual Meeting. These data update and expand on the results previously reported by the Company from its collaboration with Professor Ido Wolf, Head of the Oncology Division at Tel Aviv Sourasky Medical Center.

Colorectal cancer (CRC) represents the fourth most frequent cause of brain metastasis, which is the most common brain tumor. The study included an analysis of more than 16,000 human CRC local and metastasis samples, and revealed increased amplification of IRS2 in brain metastases.

In an in vitro system mimicking the brain microenvironment, IRS2-overexpressed CRC cells showed prolonged survival. Importantly, transcriptomic analysis demonstrated significant enrichment of the oxidative phosphorylation (OXPHOS) pathway by IRS2. CRC cells expressing IRS2 showed increased mitochondrial activity and glycolysis-independent viability. Inhibition of IRS2 using NT219 dose-dependently inhibited IRS2-expressing cells viability and OXPHOS genes expression.

The Wnt/ β -catenin pathway was among the most significantly enriched pathways in the brain metastasis, as IRS2-expressing cells showed increased transcriptional activity of the β -catenin. In addition, NT219 decreased the transcriptional activity of β -catenin in IRS2-expressing CRC cells to a greater extent than AKT and PI3K inhibitors, and most significantly suggested relevance of IRS2 in activating β -catenin. It was further shown that 5-FU, a chemotherapy approved for treating CRC, elevated β -catenin expression, and that NT219 diminished both 5FU-induced and the basal level of the β -catenin expression. Utilizing an intracranial animal model, it was also demonstrated that while 5-FU alone had no significant effect, the combination of 5-FU and NT219 significantly inhibited the formation of brain metastasis and extended survival rates of the study mice.

"We are excited about these highly encouraging study results," said Bertrand Liang, M.D., Ph.D., Chief Medical Officer of Purple Biotech. "These compelling data provide important insights regarding the role of IRS2 in promoting CRC brain metastasis, and suggest that novel agents such as NT219 have the potential to effectively inhibit the development of brain metastasis. Our ongoing Phase 1/2 clinical trial of NT219 as monotherapy for the treatment of solid tumors, followed by a dose escalation of NT219 in combination with cetuximab, an epithelial growth factor receptor (EGFR) blocking monoclonal antibody, for the treatment of recurrent and/or metastatic solid tumors and squamous cell carcinoma of the head and neck cancer, is proceeding with enrollment as planned and we continue to expect the availability of top-line data from the first part of this study in the second half of this year."

The poster presentation is available at <https://purple-biotech.com/2021/04/12/nt-219-aacr-annual-virtual-meeting-poster-2021/>.

About Purple Biotech

Purple Biotech Ltd. (f/k/a Kitov Pharma Ltd.) (the "Company"; NASDAQ/TSE: KTOV) is a clinical-stage company developing first-in-class therapies by overcoming tumor immune evasion and drug resistance. The Company's oncology pipeline includes NT219 and CM24. NT219 is a dual inhibitor, novel small molecule that simultaneously targets IRS1/2 and STAT3. The Company is currently advancing NT219 as a monotherapy treatment of solid tumors, followed by a dose escalation of NT219 in combination with cetuximab for the treatment of recurrent and/or metastatic squamous cell carcinoma of the head and neck cancer (SCCHN) or colorectal adenocarcinoma in a phase 1/2 study, and an expansion phase of NT219 at its recommended phase 2 level in combination with cetuximab in patients with recurrent and/or metastatic squamous cell carcinoma of the head and neck. CM24 is a humanized monoclonal antibody that blocks CEACAM1, an immune checkpoint protein that supports tumor immune evasion and survival through multiple pathways. The Company is advancing CM24 as a combination therapy with anti-PD-1 checkpoint inhibitors in selected cancer indications in a phase 1 study followed by a phase 2 for the treatment of non-small cell lung cancer and pancreatic cancer. The Company has entered into a clinical collaboration agreement, as amended, with Bristol Myers Squibb for the planned phase 1/2 clinical trials to evaluate the combination of CM24 with the PD-1 inhibitor nivolumab (Opdivo®) in patients with non-small cell lung cancer and in combination with nivolumab in addition to nab-paclitaxel (ABRAXANE®) in patients with pancreatic cancer. The Company is also the owner of Consensi®, an FDA-approved fixed-dose combination of celecoxib and amlodipine besylate, for the simultaneous treatment of osteoarthritis pain and hypertension that was approved by the FDA for marketing in the U.S. Consensi® is being sold in the U.S. by Burke Therapeutics, the marketing partner of the Company's U.S. distributor, Coepris Pharmaceuticals. The Company has also partnered to commercialize Consensi in China and South Korea. The Company has recently relocated its corporate headquarters to Rehovot, Israel. For more information, please visit <http://www.purple-biotech.com>.

Forward-Looking Statements and Safe Harbor Statement

Certain statements in this press release that are forward-looking and not statements of historical fact are forward looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, but are not limited to, statements that are not statements of historical fact, and may be identified by words such as "believe", "expect", "intend", "plan", "may", "should", "could", "might", "seek", "target", "will", "project", "forecast", "continue" or "anticipate" or their negatives or variations of these words or other comparable words or by the fact that these statements do not relate strictly to historical matters. You

should not place undue reliance on these forward-looking statements, which are not guarantees of future performance. Forward-looking statements reflect our current views, expectations, beliefs or intentions with respect to future events, and are subject to a number of assumptions, involve known and unknown risks, many of which are beyond our control, as well as uncertainties and other factors that may cause our actual results, performance or achievements to be significantly different from any future results, performance or achievements expressed or implied by the forward-looking statements. Important factors that could cause or contribute to such differences include, among others, risks relating to: the plans, strategies and objectives of management for future operations; product development for NT219 and CM24; the process by which early stage therapeutic candidates such as NT219 and CM24 could potentially lead to an approved drug product is long and subject to highly significant risks, particularly with respect to a joint development collaboration; the fact that drug development and commercialization involves a lengthy and expensive process with uncertain outcomes; our ability to successfully develop and commercialize our pharmaceutical products; the expense, length, progress and results of any clinical trials; the impact of any changes in regulation and legislation that could affect the pharmaceutical industry; the difficulty in receiving the regulatory approvals necessary in order to commercialize our products; the difficulty of predicting actions of the U.S. Food and Drug Administration or any other applicable regulator of pharmaceutical products; the regulatory environment and changes in the health policies and regimes in the countries in which we operate; the uncertainty surrounding the actual market reception to our pharmaceutical products once cleared for marketing in a particular market; the introduction of competing products; patents obtained by competitors; dependence on the effectiveness of our patents and other protections for innovative products; our ability to obtain, maintain and defend issued patents; the commencement of any patent interference or infringement action against our patents, and our ability to prevail, obtain a favorable decision or recover damages in any such action; and the exposure to litigation, including patent litigation, and/or regulatory actions, and other factors that are discussed in our Annual Report on Form 20-F for the year ended December 31, 2020 and in our other filings with the U.S. Securities and Exchange Commission ("SEC"), including our cautionary discussion of risks and uncertainties under "Risk Factors" in our Registration Statements and Annual Reports. These are factors that we believe could cause our actual results to differ materially from expected results. Other factors besides those we have listed could also adversely affect us. Any forward-looking statement in this press release speaks only as of the date which it is made. We disclaim any intention or obligation to publicly update or revise any forward-looking statement or other information contained herein, whether as a result of new information, future events or otherwise, except as required by applicable law. You are advised, however, to consult any additional disclosures we make in our reports to the SEC, which are available on the SEC's website, <http://www.sec.gov>.

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