# New Data on Kitov's NT219 Demonstrates its Unique Mechanism of Action and Anti-Cancer Effect

- *NT219 is a first-in-class drug candidate with high affinity and selectivity to its target proteins*
- *Data show that even a short exposure of cancerous cells to NT219 was sufficient to trigger irreversible shutdown of cancer pathways, resulting in a long-term anti-cancer effect*
- *NT219 has blockbuster potential in multiple oncology indications*

TEL AVIV, Israel, Jan. 15, 2019 (GLOBE NEWSWIRE) -- Kitov Pharma (NASDAQ/TASE: KTOV), an innovative pharmaceutical company, today announced new findings from its ongoing collaboration with researchers from the Hebrew University of Jerusalem. The data reveal NT219's high affinity and selective binding to its target proteins.

Hadas Reuveni, Ph.D., Chief Technology Officer at Kitov's subsidiary, TyrNovo Ltd., in collaboration with Dr. Galia Blum and Dr. Ofra Moshel from the Hebrew University demonstrated that NT219 binds directly to Insulin Receptor Substrates (IRS) 1/2 and to the Signal Transducer and Activator of Transcription 3 (STAT3), both known modulators of tumor survival, metastasis and drug resistance. Data showed that a short exposure of cancerous cells to NT219 was sufficient to trigger irreversible shutdown of these pathways, resulting in a long-term anti-cancer effect.

Based on these latest findings, Kitov and Yissum, the Technology Transfer company of the Hebrew University of Jerusalem, have extended their collaboration agreement in order to deepen the understanding of NT219's efficacy in overcoming tumors' resistance to immunotherapy.

As previously reported (Reuveni *et al, Cancer Research*, 2013) upon binding to IRS1/2 a three-step mechanism is activated. IRS1/2 dissociates from the cell membrane, undergoes serine phosphorylation which prevents rebinding to the receptor, and is finally degraded by the proteasome. This sequence of events leads to the blockage of AKT – a major cancer cell survival pathway.

"We are excited about the new data which demonstrate NT219's unique mechanism of action. NT219, a new and promising concept in cancer therapy, is designed to prevent, reverse, and delay resistance to anti-cancer drugs. We are developing NT219 as a drug to be used in combination with other therapies that has a potential to overcome cancer drug resistance and to boost the efficacy of numerous oncology drugs on the market today," stated Kitov CEO, Isaac Israel.

**About NT219**

NT219 is a small molecule that presents a new concept in cancer therapy by promoting the degradation and inhibiting the phosphorylation of two oncology-related signal transducers, Insulin Receptor Substrates (IRS) 1/2 and signal transducer and activator of transcription 3 (STAT3), respectively. While targeted anti-cancer drugs inhibit the "ON" signal, NT219 activates the "OFF" switch, extensively blocking major oncogenic pathways. In pre-clinical trials, NT219, in combination with several approved cancer drugs, displayed potent anti-tumor effects and increased survival in various cancers, including sarcoma, melanoma, pancreatic, lung, head & neck, prostate and colon cancers, by preventing the tumors from developing drug resistance and reversing resistance after it had been acquired. NT219 is licensed from Yissum, the technology transfer company of the Hebrew University of Jerusalem.

**About Kitov Pharma**

Kitov Pharma (Kitov Pharma Ltd.; NASDAQ/TASE: KTOV) is an innovative pharmaceutical drug development company. Leveraging deep regulatory and clinical-trial expertise, Kitov's veteran team of healthcare and business professionals maintains a proven track record in streamlined end-to-end drug development and approval. Kitov's flagship combination drug, Consensi™, treating osteoarthritis pain and hypertension simultaneously, was approved by the FDA for marketing in the U.S and is partnered in the U.S, China and South Korea. In addition, Kitov's NT219, is a novel patented small molecule designed to overcome cancer drug resistance that is currently in pre-clinical development. By lowering development risk and cost through fast-track regulatory approval of novel therapeutics, Kitov plans to deliver rapid ROI and long-term potential to investors, while making a meaningful impact on people's lives. For more information on Kitov, the content of which is not part of this press release, please visit http://www.kitovpharma.com.

**Forward-Looking Statements and Kitov's Safe Harbor Statement**

Certain statements in this press release are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other applicable securities laws. Forward-looking statements can be identified by the use of forward-looking 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 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 lack of sufficient funding to finance the 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 attained by competitors; dependence on the effectiveness of our patents and other protections for innovative products; our ability to obtain, maintain and defend issued patents with protective claims; the commencement of any patent interference or infringement action; 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; the uncertainty

surrounding an investigation by the Israel Securities Authority into our historical public disclosures and the potential impact of such investigation on the trading of our securities or on our clinical, commercial and other business relationships, or on receiving the regulatory approvals necessary in order to commercialize our products, and other factors that are discussed in our in our Annual Report on Form 20-F for the year ended December 31, 2017 and in our other filings with the 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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