

**Prospectus Supplement No. 1**  
**(To Prospectus dated September 16, 2019)**

**2,811,430 American Depositary Shares**  
**Each Representing 1 Ordinary Share**

**Issuable upon Exercise of Warrants**



This Prospectus Supplement No. 1 supplements and amends the prospectus dated September 16, 2019, referred to herein as the Prospectus, relating to the disposition from time to time of up to 2,811,430 American Depositary Shares (“ADSs”), each representing 1 of our ordinary shares no par value per share. These ADSs include 2,811,430 ADSs representing 2,811,430 of our ordinary shares issuable upon the exercise of the remaining unexercised warrants that we issued in connection with our registered direct offering in January 2019. We are not selling any ADSs under this prospectus and will not receive any of the proceeds from the sale of ADSs by the selling shareholders. We will, however, receive the net proceeds of any warrants exercised for cash.

This prospectus supplement is being filed to include the information set forth in the report on Form 6-K furnished on October 2, 2019 to the U.S. Securities and Exchange Commission, which is set forth below. This prospectus supplement should be read in conjunction with the Prospectus, which is to be delivered together with this prospectus supplement.

Our ordinary shares are currently traded on the TASE under the symbol “KTOV.” The last reported sale price of our ordinary shares on the TASE on October 1, 2019 was NIS 2.485, or \$ 0.7139, per share (based on the exchange rate reported by the Bank of Israel as of that date, which was NIS 3.482 = \$1.00).

Our ADSs are currently listed on The NASDAQ Capital Market under the symbols “KTOV”. The last reported sale price of our ADSs on The NASDAQ Capital Market on October 1, 2019 was \$0.7139.

This Prospectus Supplement No. 1 is qualified by reference to the Prospectus, except to the extent that the information in this Prospectus Supplement No. 1 updates or supersedes the information contained in the Prospectus, including any supplements and amendments thereto. This Prospectus Supplement No. 1 is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, including any supplements and amendments thereto. **Prospective investors should carefully review the Prospectus and this Prospectus Supplement No. 1.**

**Investing in our ADSs involves a high degree of risk. These risks are described under the caption “Risk Factors” beginning on page 4 of the Prospectus, as the same may be updated in prospectus supplements.**

**Neither the Securities and Exchange Commission, the Israeli Securities Authority, nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying Prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

The date of this prospectus supplement is October 2, 2019.

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**The section entitled “Directors and Senior Management” on page 24 of the Prospectus is hereby amended and restated in its entirety to read as follows:**

The following table sets forth the name and position of each of our executive officers and directors, as of the date of this Prospectus Supplement. The inclusion of any individual in this table does not necessarily imply that such individual is an officer or office holder as such terms are defined under applicable law.

<b>Name</b>	<b>Position</b>
Eric K. Rowinsky, M.D.	Independent Director and Chairman of the Board
Isaac Israel	Chief Executive Officer and Director
Gil Efron, CPA, MA	Deputy CEO and Chief Financial Officer
Gil Ben-Menachem, Ph.D., MBA <sup>(3)</sup>	Vice President of Business Development and Director
Hadas Reuveni, Ph.D. <sup>(3)</sup>	Vice President of Research and Development and Founder and Chief Technology Officer of TyrNovo
Ido Agmon, MBA <sup>(2)(3)</sup>	Independent Director and Interim Chairman of the Board
Simcha Rock, CPA, MBA <sup>(4)</sup>	Director
Steven Steinberg <sup>(1)(2)</sup>	Independent Director
Arye Weber <sup>(2)(4)</sup>	Independent Director
Ran Tzror, CPA, MBA <sup>(1)(4)</sup>	Independent Director
Revital Stern-Raff, CPA, MBA <sup>(1)(4)</sup>	Independent Director

- (1) Member of Kitov Pharma audit committee
- (2) Member of Kitov Pharma compensation committee
- (3) Member of Kitov Pharma science and technology committee
- (4) Member of Kitov Pharma investment committee

The business addresses of our directors and senior management is One Azrieli Center, Round Tower, 132 Menachem Begin Road, Tel Aviv, 6701101, Israel.

On October 2, 2019, the Board of Directors of the Company determined to fill a vacancy on the Board, and to appoint, effective immediately, Eric K. Rowinsky, M.D., age 62, to serve as a director of the Company, as part of the first class of directors and as Chairman of the Board of Directors.

Dr. Rowinsky has been the Executive Director and President of RGenix, Inc. since June 2016. He also has served as the Chief Scientific Officer of Clearpath Development Co. since June 2016. Prior to this, Dr. Rowinsky served as the Head of Research and Development, Chief Medical Officer and Executive Vice President of Stemline Therapeutics, Inc. from February 2011 to January 2016. In 2010, Dr. Rowinsky co-founded Primrose Therapeutics and became its Chief Executive Officer, until it was acquired in 2011. From 2005 to 2010, he served as the Chief Medical Officer and Executive Vice President of Clinical Development and Regulatory Affairs of ImClone Systems Incorporated, a life sciences company focused on monoclonal antibodies, which was acquired by Eli Lilly and Company. Previous to that, Dr. Rowinsky held several positions at the Cancer Therapy and Research Center’s Institute of Drug Development, including Director of the Institute and SBC Endowed Chair for Early Drug Development. Prior to that, he served as Clinical Professor of Medicine in the Division of Medical Oncology at the University of Texas Health Science Center at San Antonio and as Associate Professor of Oncology at the Johns Hopkins University School of Medicine. Dr. Rowinsky presently serves on the boards of directors of the public companies Biogen Idec, Inc., Fortress Biosciences, Inc., and Verastem Inc. He formerly served on the boards of directors of the public companies Navidea Biopharmaceuticals Inc. (2010-2018), BIND Therapeutics (2014-2016), and Biophytis S.A. (2018-2019), as well as at a number of privately held companies. Dr. Rowinsky received a B.A. degree in Liberal Arts from New York University. He earned his M.D. from Vanderbilt University School of Medicine and completed a residency in internal medicine at University of California and a fellowship in medical oncology at Johns Hopkins University. Our Board of Directors believes that Dr. Rowinsky’s qualifications to sit on the Board and act as Board Chairman include his extensive research and drug development experience, oncology expertise, corporate strategy experience, and broad scientific and medical knowledge.

The Board of Directors determined that Dr. Rowinsky meets the independence requirements of the Exchange Act and NASDAQ Listing Rules. The appointment of Dr. Rowinsky by the Board was in accordance with Article 86 of the Company's amended and restated articles of association, and Dr. Rowinsky was appointed to serve as a director of the Company until the 2019 annual general meeting set to take place at the end of the three-year term for the first class of directors.

Further to earlier announcements by the Company on May 1, 2019 and July 2, 2019 concerning the retirement of our previous Chairman of the Board and Chief Medical Officer, Dr. John Paul Waymack, the Company announced on October 2, 2019 that Dr. Waymack's resignation from his role as Chief Medical Officer of the Company is effective as of October 1, 2019. Management of the Company expects that he will continue to serve as a medical and regulatory advisor to the Company, pending completion of a new consulting agreement with Dr. Waymack with respect to such role.

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