## Kamada Presents Updated Data from Phase 2 Clinical Trial of Inhaled Alpha-1-Antitrypsin for Treatment of Alpha-1 Antitrypsin Deficiency at 2017 American Thoracic Society International Conference

Poster presentation led by Professor Mark Brantly from the University of Florida College of Medicine

NESS ZIONA, Israel -- May 24, 2017 -- Kamada Ltd. (Nasdaq: KMDA) (KMDA.TA), a plasmaderived protein therapeutics company focused on orphan indications, today announced that a poster comprising updated data from the Company's U.S. Phase 2 clinical trial of its proprietary inhaled Alpha-1 Antitrypsin (AAT) therapy for the treatment of Alpha-1 Antitrypsin Deficiency (AATD) was presented by Professor Mark Brantly, M.D., Vice Chair of Research, Department of Medicine, Chief Division of Pulmonary, Critical Care and Sleep Medicine, Professor of Medicine, Molecular Genetics and Microbiology at the University of Florida College of Medicine and Alpha One Foundation Research Professor, at the 2017 American Thoracic Society (ATS) International Conference, being held May 19-24 in Washington, D.C. AATD is an orphan disease currently treated by intravenous AAT augmentation therapy.

The U.S. Phase 2 clinical trial was a double-blind, placebo-controlled study evaluating the safety and efficacy of AAT by inhalation in 36 AATD patients. Patients were treated with Kamada's AAT for inhalation (80 mg/day) or 160 mg/day) or placebo via the eFlow® device for 12 weeks during the double-blind period. Primary efficacy measures included antigenic AAT levels and Anti-Neutrophil Elastase inhibitory (ANEC) levels in the lung, as well as additional anti-proteolytic and anti-inflammatory biomarkers. Following this double-blind period, eligible patients (total of 26) entered an additional 12-week open-label extension study with the active drug (160 mg/day) to further assess safety and tolerability. Previously announced top-line data from this trial indicated that patients treated with Kamada's inhaled AAT demonstrated a significant increase in endothelial lining fluid (ELF), AAT antigenic and ANEC levels compared to the placebo group.

The updated data included in the poster presentation demonstrated that ELF-AAT, neutrophil elastase (NE)-AAT and ANEC complexes concentration significantly increased in subjects receiving the 80 mg and 160 mg doses, (median increase of 38.7 neutrophil migration (nM), p-value<0.0005 (80 mg/day, n=12), and median increase of 46.2 nM, p-value<0.002 (160 mg/day, n=10)). This is a specific measure of the anti-proteolytic effect in the ELF and represents the amount of NE that was broken down by AAT. The increase in levels of functional AAT was six times higher (160 mg per day) than is achievable with intravenous (IV) AAT. In addition, ELF NE decreased significantly. Also, the 80 mg data demonstrated a significant reduction in the percentage of neutrophils. Finally, aerosolized M-specific AAT was detected in the plasma of all subjects receiving inhaled AAT, consistent with what was seen in the Phase 2/3 clinical trial of inhaled AAT conducted by Kamada in the EU.

"Inhaled AAT significantly increases functional AAT levels in the ELF versus placebo and versus what can be achieved with IV AAT," said Naveh Tov, M.D., Ph.D., Kamada's Vice President, Clinical Development and Medical Director for Pulmonary Diseases. "Inhaled AAT also restores protease anti-protease homeostasis and reduces the percentage of neutrophils and NE concentration in the lower respiratory tract of AAT deficient individuals. Finally, detection of normal M-specific AAT in the plasma of study subjects indicates that inhaled AAT passed from the alveolar compartment and the interstitial space. Collectively, we believe that these findings, as well as the previously announced top-line data from this trial, and the clinically significant results of our European Phase 2/3 study, support the use of inhaled AAT for the treatment of AATD."

"The positive updated data from this clinical trial build on the previously obtained compelling topline results," said Professor Brantly, the Primary Investigator of the clinical trial. "These most recent encouraging results further support the use of inhaled AAT as a safe and effective treatment for AATD. I continue to be excited about the prospect of conducting a pivotal clinical trial in the U.S. to further evaluate inhaled AAT in the clinic."

"We are currently discussing a regulatory pathway in the U.S. for the Company's inhaled AAT with the U.S. Food and Drug Administration," said Amir London, Kamada's Chief Executive Officer. "We expect to have an approved Investigational New Drug Application to conduct a pivotal Phase 3 study prior to the end of the year, which would allow us to initiate the clinical study in the U.S. in 2018. In Europe, we anticipate a regulatory decision from the European Medicines Agency in regards to our inhaled AAT for the treatment of AATD in the second half of 2017."

The poster presented at the ATS meeting was titled, "A7677 - Inhaled Alpha-1-Antitrypsin (AAT) Restores Lower Respiratory Tract Protease-Anti-Protease Homeostasis and Reduces Inflammation in Alpha-1 Antitrypsin Deficient Individuals: A Phase 2 Clinical Study Using Inhaled Kamada-API".

## About eFlow® Technology and PARI Pharma

The Company's inhaled AAT therapy is delivered by an investigational eFlow® Nebulizer System developed by PARI Pharma and optimized specifically for Kamada. The optimized device uses eFlow Technology to enable highly efficient aerosolization of medication via a vibrating, perforated membrane that includes thousands of laser-drilled holes. Compared with other nebulization technologies, eFlow Technology produces aerosols with a very high density of active drug, a precisely defined droplet size and a high proportion of respirable droplets delivered in the shortest possible period of time. Combined with its quiet mode of operation, small size, light weight and battery use, eFlow Technology reduces the burden of taking daily, inhaled treatments.

## About Kamada

Kamada Ltd. is focused on plasma-derived protein therapeutics for orphan indications, and has a commercial product portfolio and a robust late-stage product pipeline. The Company uses its proprietary platform technology and know-how for the extraction and purification of proteins from human plasma to produce Alpha-1 Antitrypsin (AAT) in a highly-purified, liquid form, as well as other plasma-derived Immune globulins. AAT is a protein derived from human plasma with known and newly-discovered therapeutic roles given its immunomodulatory, anti-inflammatory, tissueprotective and antimicrobial properties. The Company's flagship product is GLASSIA®, the first and only liquid, ready-to-use, intravenous plasma-derived AAT product approved by the U.S. Food and Drug Administration. Kamada markets GLASSIA® in the U.S. through a strategic partnership with Baxalta (now part of Shire plc) and in other counties through local distributors. In addition to GLASSIA®, Kamada has a product line of seven other pharmaceutical products administered by injection or infusion, that are marketed through distributors in more than 15 countries, including Israel, Russia, Brazil, India and other countries in Latin America and Asia. Kamada has five latestage plasma-derived protein products in development, including an inhaled formulation of AAT for the treatment of AAT deficiency for which a MAA was submitted to the EMA after completing a pivotal Phase 2/3 clinical trials in Europe. Kamada has also completed its Phase 2 clinical trials in the U.S for the treatment of AAT deficiency with inhaled AAT. In addition, Kamada's intravenous AAT is in development for other indications such as type-1 diabetes, GvHD and prevention of lung transplant rejection. Kamada also leverages its expertise and presence in the plasma-derived protein therapeutics market by distributing more than 10 complementary products in Israel that are manufactured by third parties.

This release includes forward-looking statements within the meaning of Section 27A of the U.S. Securities Act of 1933, as amended, Section 21E of the U.S. Securities Exchange Act of 1934, as amended, and the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts, such as statements regarding assumptions and results related to financial results forecast, commercial results, timing and results of clinical trials and EMA and U.S. FDA submissions and authorizations. Forward-looking statements are based on Kamada's current knowledge and its present beliefs and expectations regarding possible future events and are subject to risks, uncertainties and assumptions. Actual results and the timing of events could differ materially from those anticipated in these forward-looking statements as a result of several factors including, but not limited to, unexpected results of clinical trials, delays or denial in the U.S. FDA or the EMA approval process, additional competition in the AATD market or further regulatory delays. The forward-looking statements made herein speak only as of the date of this announcement and Kamada undertakes no obligation to update publicly such forward-looking statements to reflect subsequent events or circumstances, except as otherwise required by law.

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