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Kite Highlights Publication from the National Cancer Institute Demonstrating Responses in Patients with Metastatic Solid Tumors Treated with T Cell Receptor (TCR) Therapy Targeting MAGE A3

- ▮ Study Demonstrates the Potential of TCR Engineered T-Cell Therapy to Induce Remissions in Solid Tumors
- ▮ KITE-718, Utilizing Same TCR Construct and Next-Generation T-Cell Manufacturing Technology, Currently Enrolling

SANTA MONICA, Calif.--(BUSINESS WIRE)-- Kite Pharma, Inc. (Nasdaq:[KITE](#)), a leading cell therapy company, today highlighted the publication of results in the [Journal of Clinical Oncology](#) from a National Cancer Institute (NCI) study evaluating the safety and efficacy of a MAGE A3 T cell receptor (TCR) engineered T-cell therapy. The cancer testis antigen MAGE A3 is frequently found in many cancers including bladder, esophageal, cervical, head and neck, lung, and ovarian cancers, among others. The research, led by Steven A. Rosenberg, M.D., Ph.D., Chief of the Surgery Branch at NCI's Center for Cancer Research, was performed, in part, pursuant to a Cooperative Research and Development Agreement (CRADA) between NCI and Kite.

In this dose-escalation study, 17 patients with a variety of metastatic solid tumors were treated with a single dose of a MHC class II (HLA-DPB*0401)-restricted MAGE A3 TCR engineered T-cell therapy after a chemotherapy conditioning regimen. Responses were observed in 4 patients, including a complete remission (CR) in a patient with metastatic cervical cancer that is ongoing at 29 months. Among the 9 patients treated at the target dose level, evidence of tumor regression was seen in 3 patients with esophageal cancer, urothelial cancer, and osteosarcoma. All three responders had significant levels of the TCR engineered T cells in blood, at 1 month post-treatment. The patient with urothelial cancer remains in partial remission at 19 months. No unexpected off-target toxicity was seen, and there were no treatment-related deaths.

"We are very excited by the results of this study conducted by our collaborators at the NCI, demonstrating the potential of TCR engineered T-cell therapy in common solid tumors," said David Chang, M.D., Ph.D., Executive Vice President of Research and Development and Chief Medical Officer of Kite. "The KITE-718 program is built upon this proof of concept study and incorporates Kite's next generation T-cell manufacturing technology that is designed to enhance cell expansion and persistence. The findings from the NCI study will help inform us as we advance KITE-718 for the treatment of metastatic solid cancers, for which there is a great unmet medical need."

KITE-718 is a single-arm, dose escalation study evaluating the safety and efficacy of T cells engineered with the same TCR used in the NCI study in patients with advanced cancers. KITE-718 is currently enrolling patients. For more information on KITE-718, please visit www.clinicaltrials.gov (NCT03139370).

About Kite

Kite is a biopharmaceutical company engaged in the development of innovative cancer immunotherapies with a goal of providing rapid, long-term durable response and eliminating the burden of chronic care. The company is focused on chimeric antigen receptor (CAR) and T cell receptor (TCR) engineered cell therapies designed to empower the immune system's ability to recognize and kill tumors. Kite is based in Santa Monica, CA. For more information on Kite, please visit www.kitepharma.com. Sign up to follow @KitePharma on Twitter at www.twitter.com/kitepharma.

Cautionary Note on Forward-Looking Statements

This press release contains forward-looking statements for purposes of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. The press release may, in some cases, use terms such as "predicts," "believes," "potential," "proposed," "continue," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "might," "will," "should" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. Forward-looking statements include statements regarding intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: the ability of Kite's next generation T-cell manufacturing technology to enhance cell expansion and persistence and the ability to advance the clinical trial of KITE-718 for the treatment of metastatic solid cancers. Various factors may cause differences between Kite's expectations and actual results as discussed in greater detail in Kite's filings with the Securities and Exchange Commission, including without limitation in its Form 10-Q for the quarter ended June 30, 2017. Any forward-looking statements that are made in this press release speak only as of the date

of this press release. Kite assumes no obligation to update the forward-looking statements whether as a result of new information, future events or otherwise, after the date of this press release.

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