



April 4, 2017

Kite Highlights Publication on Breakthrough in Generating Fully Functioning T Cells from Hematopoietic Precursor Cells by Leading Researchers at the University of California, Los Angeles (UCLA)

- | Proprietary Serum-Free Artificial Thymic Organoid (ATO) Reproduces T-Cell Differentiation in Human Thymus
- | System Offers Technical Simplicity, Reproducibility, and Potential Scalability
- | Kite Holds Exclusive License to the ATO Technology for the Development of Renewable Off-the-Shelf T-cell Therapies

SANTA MONICA, Calif.--(BUSINESS WIRE)-- Kite Pharma, Inc. (Nasdaq:[KITE](#)) today highlighted a publication in the latest issue of *Nature Methods* that describes pre-clinical findings demonstrating that a novel serum-free, 3-dimensional cell culture technology, known as the Artificial Thymic Organoid (ATO) cell culture system, recapitulates T-cell differentiation. The findings support the potential of ATO technology to generate off-the-shelf engineered T cells to treat cancer and other diseases. The research was led by Gay M. Crooks, M.D. at the [Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at the University of California, Los Angeles \(UCLA\)](#). Kite holds an exclusive license to the ATO cell culture technology from UCLA.

The ATO cell culture system mimics the function of the human thymus to allow differentiation of fully functioning T cells from hematopoietic stem cells. Importantly, the ATO cell culture system allows engineering of the T-cell receptor during T-cell differentiation, making the system potentially suitable for the generation of off-the-shelf engineered T cells from renewable cell source.

"We congratulate Dr. Crooks and her collaborators on this ground-breaking research," said David Chang, M.D., Ph.D., Executive Vice President of Research and Development and Chief Medical Officer of Kite. "The simplicity and reproducibility of ATO technology offers the potential to develop renewable, off-the-shelf engineered T cells from pluripotent stem cell lines. This is a significant breakthrough in engineered cell therapy."

The publication, "Generation of mature T cells from human hematopoietic stem and progenitor cells in artificial thymic organoids", was published online in *Nature Methods* on April 3, 2017.

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 potential of the artificial thymic organoid cell culture system to generate off-the-shelf engineered T cells to treat cancer and other diseases. 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-K for the year ended December 31, 2016. 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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