Forward Looking Statements/Safe Harbor

To the extent statements contained in this presentation are not descriptions of historical facts regarding Kite Pharma, Inc. ("Kite," "we," "us," or "our"), they are forward-looking statements reflecting management’s current beliefs and expectations. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry’s actual results, levels or activity, performance, or achievements to be materially different from those anticipated by such statements. You can identify forward-looking statements by words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes. Forward-looking statements contained in this presentation include, but are not limited to, statements regarding: (i) the success and timing of our product development activities and clinical trials; (ii) the ability and willingness of the National Cancer Institute (NCI) to continue research and development activities relating to our product candidates; (iii) our ability to obtain and maintain regulatory approval of axicabtagene ciloleucel ("axi-cel") and any other product candidates; (iv) our ability to further develop and commercialize our product candidates; (v) our plans to research, discover and develop additional product candidates and next generation product candidates, including a next-generation CAR with an “on/off” or “control” switch; (vi) our and our partners’ ability to develop, manufacture and commercialize our product candidates and to improve the manufacturing process; (vii) the size and growth potential of the markets for our product candidates, and our ability to serve those markets; (viii) the rate and degree of market acceptance of our product candidates; (ix) our ability to attract and retain key scientific or management personnel; (x) the anticipated timing of clinical data availability; (xi) the anticipated timing of submitting a Biologics License Application for axi-cel and commercially launching axi-cel; (xii) our plans to expand geographically; (xiii) our ability to meet the milestones set forth herein; and (xiv) our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates.

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 (SEC), including without limitation in its Quarterly Report on Form 10-K filed with the SEC for the quarter ended March 31, 2017. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. This presentation shall not constitute an offer to sell or the solicitation of an offer to buy securities, nor shall there be any sale of securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.
Developing Personalized Cancer Immunotherapy

CHIMERIC ANTIGEN RECEPTOR (CAR) T CELL THERAPY

- Collect patient’s white blood cells
- Isolate and activate T cells
- Engineer T cells with CAR or TCR gene
- Grow and expand number of T cells
- Infuse patient with engineered T cells

Apheresis | Manufacturing Process | Infusion

99+% Patients Treated from Single Apheresis in ZUMA-1 Pivotal Clinical Trial
Every Day Matters: Make to Order, One at a Time

Biopharmaceutical Products: Make to Stock

Cell Therapy Products: Make to Order

Multiple Intermediate Suppliers ➔ Multiple API/DS Sites ➔ Drug Product Filling ➔ Inventory ➔ Labeling and Packaging ➔ Inventory ➔ Warehouse ➔ Inventory ➔ Wholesaler ➔ Inventory ➔ Distributor ➔ Inventory ➔ Hospital

Multiple apheresis sites ➔ Manufacturing site (Drug substance/Drug product/packaging/QC release) ➔ Hospitals

1 Day ➔ 14-16 Days ➔ 1 Day
Evolving Supply Chain for Autologous Cell Therapy

Established Biologics

- Decades of ecosystem in recombinant protein and mAb
- Bulk manufacturing, staged operations: drug substance, drug product, and labeling/packaging
- E2E manufacturing cycle time 1-6 months; shelf life 1-5 years
- Make to stock, classic S&OP
- Mostly 2-8 cold chain and high value bulk shipments
- Long lead-time, high capital investment

Personalized Cell Therapy

- Standards are yet to be established
- Patient cell starting material; each batch is personalized for a patient
- Rapid manufacturing cycle time 14-16 days
- Make to order, activity based planning
- Cold chain w/multiple temperature ranges
- Autologous products: tracking and labeling, chain of identity
- Manufacturing facility quickly scalable
Supplier Ecosystem is In Formation

- Establish supplier base for new product is a long process, we are at the beginning

### Challenges
- A field yet to be established, unknown or high risks to our suppliers
- Various material requirements from licensed products to reagents mainly used in research
- Custom made and customized
- Service providers also play key roles
- Single source and supply continuity
### Active Supply Management to Ensure Serving Patients

Define Risk Criteria
- Business
- Operational
- Compliance
- Product Quality

Assess Supply Risks
- Production Materials
- Testing Materials
- Packaging Materials
- General Consumables

Action Plan
- Purchasing Policy
- Inventory Policy
- Supplier Relationship
- Redundant Sources
- Replacement Strategy
Integrated Delivery Solution: Apheresis Collection to Final Product

Integration Across Kite

- Patient scheduling
- Chain of Identity/Chain of Custody
- Courier shipment tracking
- Portal for hospitals

Approximately 16-18 Days
Integrated Supply Chain Planning to Facilitate Cell Journey

In-house clinical manufacturing in full operation

Commercial facility within close proximity to LAX airport

Capacity to produce 4,000+ patient therapies per year

Modular design – scalable, cost effective and can be quickly replicated to meet increased demand if needed

Site to produce axi-cell/KTE-C19, CAR and all TCR products
Product Release

• Product must be released as soon as possible due to patient considerations – targeted within days of manufacture

• Single patient dose manufactured and tested for all CQAs including Sterility, Endotoxin

• Rapid methods used wherever possible (Sterility, PCR for mycoplasma, RCR)

• Deviation management and cycle times must meet streamlined disposition process

• Chain of Identity (COI) and Chain of Custody (COC) tracking is a key element of disposition process
Quality oversight for Chain of Custody and Chain of Identity
Focused on the Cure