NKTR-255 Engages the IL-15 Pathway Driving CD8 T Cell Survival and CD8 Memory T Cell Proliferation

Peiwen Kuo, Mekhala Maiti, Phil Quach, Murali Addepalli, Arunasee Lanka, Poornachandra Mathamsetti, Christie Fanton, Ping Zhang, Peter Kirk, Takahiro Miyazaki, Jonathan Zalevsky
Nektar Therapeutics, San Francisco, California

Introduction
• NKTR-255, a polymer-engineered IL-15, is highly active and provides long cytokine exposure to T cells.

Methods
• In cynomolgus monkey, single dose NKTR-255 at 0.3 mg/kg increased CD8, CD8 Tem, and CD8 Tcm.
• NKTR-255 is approximately 750-fold more potent than IL-15.

Results
Figure 1. Single Dose NKTR-255 Increases CD8 Memory T Cells

Figure 2. NKTR-255 Single Agent Efficacy in a CT-26 Lung Metastasis Model

Figure 3. NKTR-255 Increases CD8 T Cell Proliferation and Survival in Tumor-Bearing Mice

Figure 4. NKTR-255 Effect on CD8 and Memory CD8 is Translatable to Monkey and Human

Conclusions
• Single dose NKTR-255 results in sustained IL-15-mediated activity not achievable with conventional IL-15.
• NKTR-255 targets CD8 and CD8 memory T cells and robustly drives their proliferation in a prolonged manner.

References