

Tech Session 2: Nanomedicine and Nanoscale Delivery

Samuel Clarke, Precision NanoSystems

*A Novel RNA Lipid Nanoparticle Platform:
Gene-Edited CAR T Cells for Off-the-Shelf Cancer Therapy*

CRS 2022 Annual Meeting & Expo

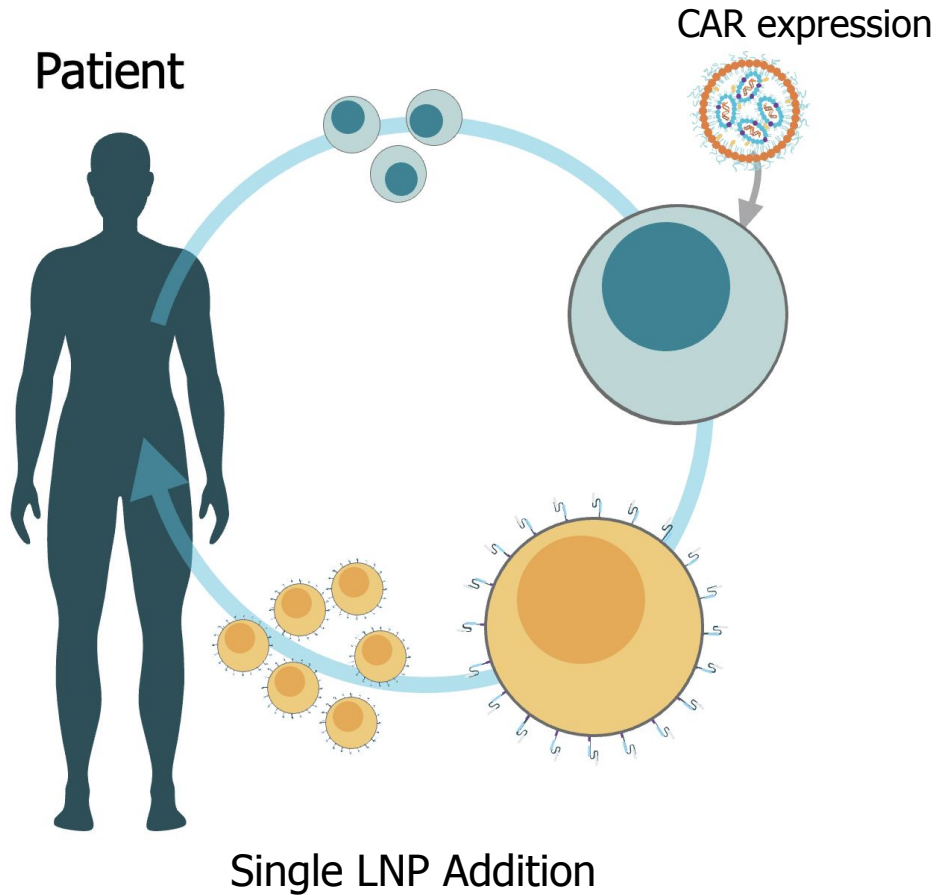
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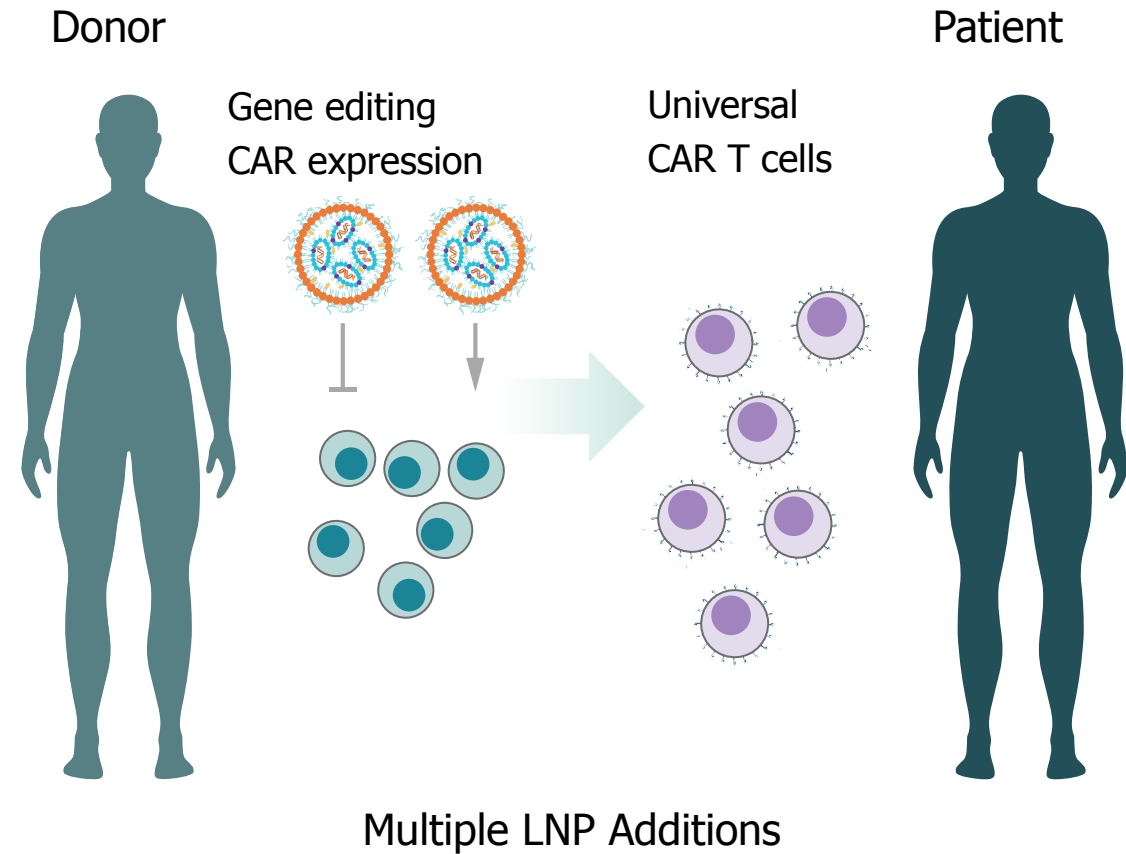


Lipid Nanoparticles for Genetic Engineering of T Cells

Autologous CAR T therapy

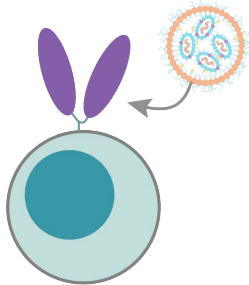


"Off-the-shelf" allogeneic CAR T therapy

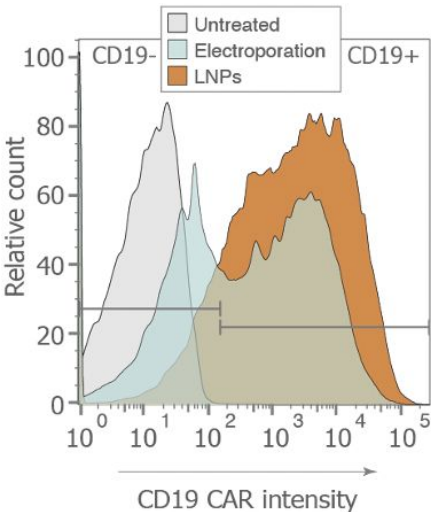


GenVoy LNPs for RNA Delivery to Primary Human T Cells

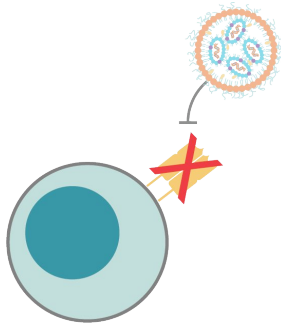
1 Gene Expression



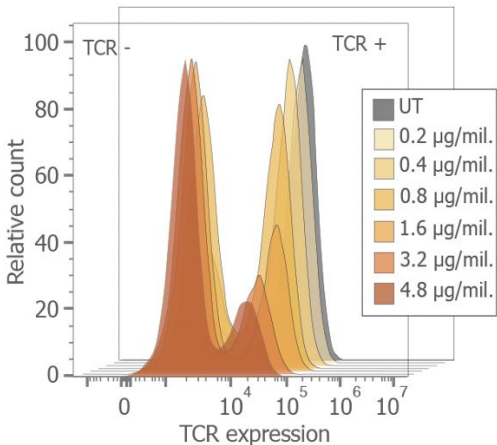
2nd generation CD19 CAR expression



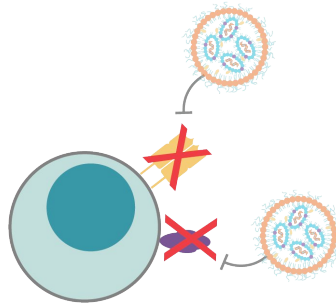
2 Single Gene Knockout



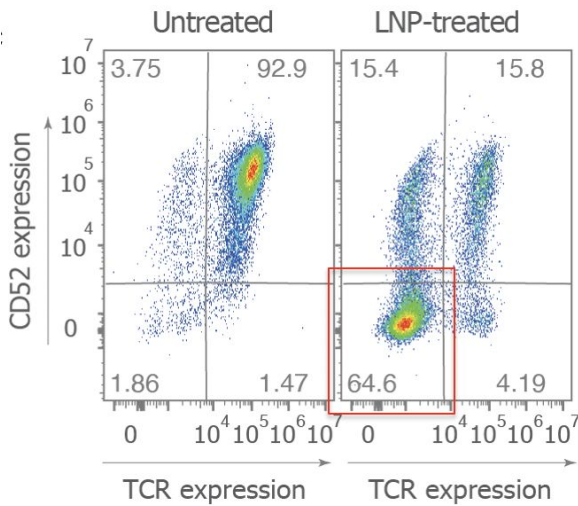
TCR knockout using Cas9 mRNA and sgRNA



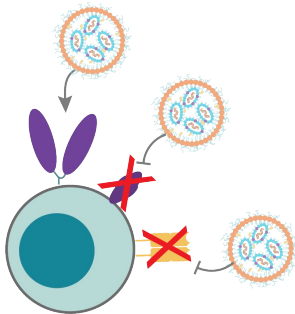
3 Double Gene Knockout



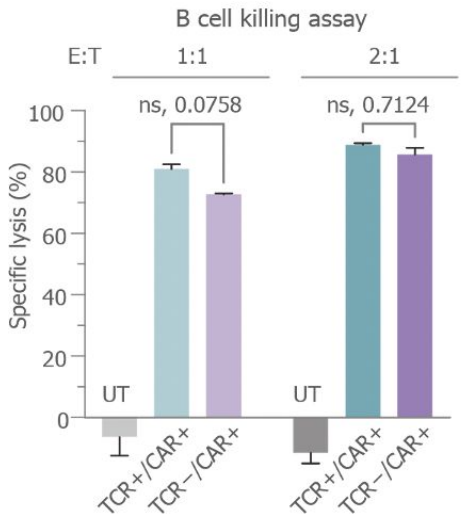
TCR and CD52 double knockout



4 Gene Knockout and Expression



TCR knockout and subsequent CAR expression



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