Figure 1.

(a)  
[Diagram of gene expression vectors: NGFR CMV PGK GFP wPRE]

(b)  
**Human CD34+ cells before differentiation** (36hrs post transduction)

- **WT**
  - NGFR: 51%
  - GFP: 52%

- **0T**
  - NGFR: 33.1%
  - GFP: 1.7%

- **4T**
  - NGFR: 29%
  - GFP: 57%

**CD56+ cells post differentiation** (Day 18 of differentiation)

- **WT**
  - NGFR: 58%
  - GFP: 57%

- **0T**
  - NGFR: 29%
  - GFP: 29%

- **4T**
  - NGFR: 29%
  - GFP: 29%

(c)  
[Bar graph showing % GFP+ cells within NGFR+ cell population]

- **WT**: Green (36 hours), Blue (18 days)
- **0T**: Green (36 hours), Blue (18 days)
- **4T**: Green (36 hours), Blue (18 days)

VCN: 2.0
VCN: 1.3

* * * *
Figure 2

(a) MND4T

(i). ~NGFR~CMV~MND~Perforin~wPRE~ MND4T

(ii). ~NGFR~CMV~PRF~Perforin~wPRE~ PRF0T

(iii). ~NGFR~CMV~PGK~Perforin~wPRE~ PGK4T

(b) Relative mRNA expression

- **WT**: MND4T
- **KD**: PRF0T
- **PGK4T**: wPRE

(c) Relative mRNA expression

<table>
<thead>
<tr>
<th></th>
<th>WT</th>
<th>KD</th>
<th>MND4T</th>
<th>PRF0T</th>
<th>PGK4T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prf</td>
<td>7.9</td>
<td>1.0</td>
<td>6.6</td>
<td>3.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Actin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(d) Fold increase in Prf expression

(e) Fold increase in Prf expression

- **WT**: MND4T
- **KD**: PRF0T
- **PGK4T**: wPRE

KHYG1 KD Transduced
Figure 3.

(a) Graph showing % cytotoxicity vs. E:T ratio for WT, Prf1^−/−, TxWT, and TxPrf1^−/−.

(b) Bar graph showing IFN-γ pg/ml for WT, Prf1^−/−, TxWT, and TxPrf1^−/−. WT has a significantly higher IFN-γ level compared to the others.

(c) Graph showing clinical score over days post challenge for WT, Prf1^−/−, TxWT, and TxPrf1^−/−. The clinical score is highest in Prf1^−/−.

(d) Graph showing percent survival over days post challenge for WT, Prf1^−/−, and TxPrf1^−/−. TXPrf1^−/− shows the lowest survival rate.

Legend:
- WT
- Prf1^−/−
- TxWT
- TxPrf1^−/−
Figure 4.

(a) % NGFR+ NK cells

(b) VCN

(c) % NGFR+ CD8 cells

(d) Normalized IFN-γ
Figure 5

(a) Clinical Score

Days Post LCMV Challenge

(b) Percent survival

Days Post LCMV Challenge

(c) Days Alive Post LCMV

Days Post LCMV Challenge

(d) LCMV mRNA

% Chimerism