CLAIMS

What is claimed is:

1. Use of transforming growth factor-beta (TGF-β) Superfamily-Imprinted Natural Killer (TGF-βi NK) cells and a CD38-targeting agent in the manufacture of a medicament for treating cancer or an infectious disease.

2. The use of claim 1, wherein the TGF-βi NK cells have a decreased expression of CD38.

3. The use of claim 1 or 2, wherein the TGF-βi NK cells have increased resistance to TGF-β.

4. The use of any one of claims 1-3, wherein the TGF-βi NK cells produced increased amounts of one or more of IFN-γ, TNF-α, and GM-CSF.

5. The use of any one of claims 1-4, wherein the TGF-βi NK cells show decreased levels of SMAD3 protein and/or TGFBR3 protein.

6. The use of any one of claims 1-5, wherein the TGF-βi NK cells are prepared by incubating NK cells in the presence of TGF-β.

7. The use of any one of claims 1-6, wherein the TGF-βi NK cells are prepared by incubating NK cells in the presence of feeder cells that have been engineered to express TGF-β or incubating NK cells in the presence of plasma membrane particles or exosomes derived from said feeder cells.

8. The use of claim 7, wherein the feeder cells comprise PBMCs, RPMI8866, HFWT, K562 cells, EBV-LCL, NK cells transfected with membrane bound IL-21, NK cells transfected with membrane bound 4-1BBL, NK cells transfected with membrane bound IL-15 and 4-1BBL, or NK cells transfected with membrane bound IL-21 and 4-1BBL.

9. The use of claim 7 or 8, wherein the feeder cells further comprise at least one additional NK cell effector agent on its cell surface, wherein the at least one additional NK cell effector agent is selected from 4-1BBL, IL-2, IL-12, IL-15, IL-18, IL-21, MICA, LFA-1, 2B4, CCR7, OX40L, UBLP2, BCM1/SLAMF2, NKG2D agonists, CD155, CD112, Jagged1, Jagged2, Delta-1, Pref-1, DNER, Jedi, SOM-11, wingless, CCN3, MAGP2, MAGP1, TSP2, YB-1, EGFL7, CCR7, DAP12, and DAP10, Notch ligands, NKp46 agonists, NKp44 agonists, NKp30 agonists, other NCR agonists, CD16 agonists.

10. The use of claim 9, wherein the at least one additional NK cell effector agent comprises IL-21, 4-1BBL, IL-15, IL-21 and 4-1BBL, IL-21 and IL-15, or IL-15 and 4-1BBL.

11. The use of any one of claims 1-10, wherein the CD38-targeting agent is a CD38 inhibitor or an anti-CD38 antibody.

12. The use of claim 11, wherein the anti-CD38 antibody is daratumumab or isatuximab.

13. The use of any one of claims 1-12, wherein the TGF-βi NK cells are to be administered prior to, concurrently with, and/or following the administration of the CD38 inhibitor.

14. Use of a transforming growth factor-beta (TGF-β) Superfamily-Imprinted Natural Killer (TGF-βi NK) cell and a CD38-targeting agent in the manufacture of a medicament for anti-cancer theray.

15. A modified natural killer (NK) cell, wherein the modified NK cell is prepared by culturing a first NK cell in the presence of a TGF-β superfamily cytokine and incubated in the presence of feeder cells that have been engineered to express TGF-β or incubating in the presence of plasma membrane particles or exosomes derived from said feeder cells.