What is claimed is:

1. A recombinant T cell receptor (TCR) comprising an extracellular domain that binds to a RAS peptide comprising a G12 mutation, wherein the extracellular domain comprises an α chain comprising an α chain variable region and α chain constant region, and a β chain comprising a β chain variable region and a β chain constant region, wherein:

a) the α chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 4, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 5,; and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 6; and the β chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 7, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 8, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 9;

b) the α chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 14, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 15, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 16; and the β chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 17, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 18, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 19;

c) the α chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 24, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 15, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 25; and the β chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 26, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 27, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 28;

d) the α chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 33, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 34, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 35; and the β chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 36, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 37, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 38; or

e) the α chain variable region comprises a CDR1 comprising the amino acid sequence set

forth in SEQ ID NO: 43, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 44, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 45; and the β chain variable region comprises a CDR1 comprising the amino acid sequence set forth in SEQ ID NO: 58, a CDR2 comprising the amino acid sequence set forth in SEQ ID NO: 46, and a CDR3 comprising the amino acid sequence set forth in SEQ ID NO: 47.

2. The TCR of claim 1, wherein a) the RAS peptide comprises a G12D mutation; b) the RAS peptide is 9-mer or 10-mer; c) the RAS peptide comprises or consists of the amino acid sequence set forth in SEQ ID NO: 1 or SEQ ID NO: 2; and/or d) the RAS peptide is associated with an HLA class I complex.

3. The TCR of claim 1 or 2, wherein a) the HLA class I complex is selected from an HLA-A, an HLA-B, and an HLA-C; b) the HLA class I complex is an HLA-A; c) the HLA-A is an HLA-A*03 superfamily member; d) the HLA-A*03 superfamily member is selected from the group consisting of HLA-A*03, HLA-A*11, HLA-A*31, HLA-A*33, HLA-A*66, HLA-A*68 and HLA-A*74; and/or e) the HLA-A*03 superfamily member is HLA-A*11.

4. The TCR of any one of claims 1-3, wherein:

a) the α chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 10, and the β chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 11;

b) the α chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 20, and the β chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 21;

c) the α chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 29, and the β chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 30;

d) the α chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 39, and the β

chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 40; or

e) the α chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 48, and the β chain variable region comprises an amino acid sequence that is at least about 80% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 49.

5. The TCR of any one of claims 1-4, wherein:

a) the α chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 10, and the β chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 11;

b) the α chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 20, and the β chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 21;

c) the α chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 29, and the β chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 30;

d) the α chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 39, and the β chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 40; or

e) the α chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 48, and the β chain variable region comprises the amino acid sequence set forth in SEQ ID NO: 49.

6. The TCR of any one of claims 1-5, wherein:

a) the α chain comprises the amino acid sequence set forth in SEQ ID NO: 12, and the β chain comprises the amino acid sequence set forth in SEQ ID NO: 13;

b) the α chain comprises the amino acid sequence set forth in SEQ ID NO: 22, and the β chain comprises the amino acid sequence set forth in SEQ ID NO: 23;

c) the α chain comprises the amino acid sequence set forth in SEQ ID NO: 31, and the β chain comprises the amino acid sequence set forth in SEQ ID NO: 32;

d) the α chain comprises the amino acid sequence set forth in SEQ ID NO: 41, and the β chain comprising the amino acid sequence set forth in SEQ ID NO: 42; or

e) the α chain comprises the amino acid sequence set forth in SEQ ID NO: 50, and the β chain comprises the amino acid sequence set forth in SEQ ID NO: 51.

7. The TCR of any one of claims 1-6, wherein the TCR is recombinantly expressed, and/or expressed from a vector.

8. The TCR of any one of claims 1-7, wherein the TCR does not bind to a RAS peptide comprising or consisting of the amino acid sequence set forth in SEQ ID NO: 3.

9. The TCR of any one of claims 1-8, wherein a) the α chain constant region comprises an amino acid sequence that is about 80%, about 81%, about 82%, about 83%, about 84%, about 85%, about 86%, about 87%, about 88%, about 89%, about 90%, about 91%, about 92%, about 93%, about 94%, about 95%, about 96%, about 97%, about 98%, or about 99% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 53 or SEQ ID NO: 54; and the β chain constant region comprises an amino acid sequence that is about 80%, about 81%, about 82%, about 83%, about 84%, about 85%, about 86%, about 87%, about 88%, about 89%, about 90%, about 91%, about 92%, about 93%, about 94%, about 95%, about 96%, about 97%, about 98%, or about 99% homologous or identical to the amino acid sequence set forth in SEQ ID NO: 55, SEQ ID NO: 56, or SEQ ID NO: 57.

10. The TCR of claim 9, wherein a) the α chain constant region comprises the amino acid sequence set forth in SEQ ID NO: 53 or SEQ ID NO: 54; and b) the β chain constant region comprises the amino acid sequence set forth in SEQ ID NO: 55, SEQ ID NO: 56, or SEQ ID NO: 57.

11. A nucleic acid encoding the T cell receptor (TCR) of any one of claims 1-10.

12. A cell comprising the TCR of any one of claims 1-10 or the nucleic acid of claim 11.

13. The cell of claim 12, wherein a) the TCR is constitutively expressed on the surface of the cell; and/or b) the TCR or the nucleic acid is integrated at a locus within the genome of the cell,

optionally wherein the locus is selected from a TRAC locus, a TRBC locus, a TRDC locus, and a TRGC locus, optionally wherein the locus is a TRAC locus or a TRBC locus.

14. The cell of claim 12 or 13, wherein the cell is

a) an immunoresponsive cell;

b) a cell selected from the group consisting of a T cell, and a pluripotent stem cell from which a lymphoid cell may be differentiated; or

c) a T cell, optionally wherein the T cell is selected from the group consisting of a cytotoxic T lymphocyte (CTL), a regulatory T cell, a γδ T cell, a Natural Killer-T cell (NK-T), a stem cell memory T cell, a central memory T cell, and an effector memory T cell, optionally wherein the T cell is a γδ T cell or a NK-T cell.

15. A composition comprising the cell of any one of claims 12-14, optionally wherein the composition is a pharmaceutical composition further comprising a pharmaceutically acceptable carrier.

16. A vector comprising the nucleic acid of claim 11, optionally wherein the vector is a γ-retroviral vector.

17. Use of the cell of any one of claims 12-14 or the composition of claim 15 in the manufacture of a medicament for treating and/or preventing a tumor associated with a RAS mutation in a subject, optionally wherein the RAS mutation is a G12D mutation.

18. The use of claim 17, wherein the tumor is selected from the group consisting of pancreatic cancer, breast cancer, endometrial cancer, cervical cancer, anal cancer, bladder cancer, colorectal cancer, cholangiocarcinoma/bile duct cancer, lung cancer, ovarian cancer, esophageal cancer, gastric cancer, head and neck squamous cell carcinoma, nonmelanoma skin cancer, salivary gland cancer, melanoma, and multiple myeloma, optionally wherein the tumor is pancreatic cancer.

19. The use of claim 17 or 18, wherein the subject is a human and comprises an HLA-A.

20. The use of any one of claims 17-19, wherein the subject comprises an HLA-A, optionally wherein the HLA-A is an HLA-A*03 superfamily member, optionally wherein the HLA-A*03

superfamily member is selected from the group consisting of HLA-A*03, HLA-A*11, HLA-A*31, HLA-A*33, HLA-A*66, HLA-A*68 and HLA-A*74, optionally wherein the HLA-A*03 superfamily member is HLA-A*11.

21. The cell of any one of claims 12-14 or the composition of claim 15 for use in therapy.