WHAT IS CLAIMED IS:

1. A tumor antigen peptide of 15 amino acids or less encoded by a sequence located a non-protein coding region of the genome, said tumor antigen peptide comprising one of the amino acid sequences set forth in SEQ ID NOs: 69, 1, 4, 8, 10, 13, 15-17, 19-27, 36-68 and 70-99.

2. The tumor antigen peptide of claim 1, wherein said tumor antigen peptide comprises one of the amino acid sequences set forth in SEQ ID NOs: 69, 19-27, 36-68 and 70-99.

3. The tumor antigen peptide of claim 1 or 2, wherein said tumor antigen peptide binds to an HLA-A*01:01 molecule and comprises the amino acid sequence set forth in SEQ ID NO: 21, 40, 41, 66 or 88.

4. The tumor antigen peptide of claim 1 or 2, wherein said tumor antigen peptide binds to an HLA-A*03:01 molecule and comprises the amino acid sequence set forth in SEQ ID NO: 1, 19, 20, 22, 36, 50, 52, 60, 62, 73, 84, 85, 86 or 91.

5. The tumor antigen peptide of claim 1 or 2, wherein said tumor antigen peptide binds to an HLA-A*11:01 molecule and comprises the amino acid sequence set forth in SEQ ID NO: 69, 54, 55, 67, 81, 87, or 90.

6. The tumor antigen peptide of claim 1 or 2, wherein said tumor antigen peptide binds to an HLA-B*07:02 molecule and comprises the amino acid sequence set forth in SEQ ID NO: 4, 8, 26, 49, 78, 92, or 97.

7. The tumor antigen peptide of claim 1 or 2, wherein said tumor antigen peptide binds to an HLA-B*08:01 molecule and comprises one of the amino acid sequences set forth in SEQ ID NO: 23, 42, 44, 46, 59, 63, 70, 74, 76, or 83.

8. The tumor antigen peptide of claim 1 or 2, wherein said tumor antigen peptide binds to an HLA-A*02:01 molecule and comprises the sequence of SEQ ID NOs: 75, 56, 98, 17, 45, 48, 51, 77, or 82.

9. The tumor antigen peptide of any one of claims 1-8, wherein said non-protein coding region of the genome is:

(a) an untranslated transcribed region (UTR), and said tumor antigen peptide comprises the amino acid sequence set forth in any one of SEQ ID NOs: 1, 8, 10, 13, 15 and 19-27;

(b) an intron, and said tumor antigen peptide comprises the amino acid sequence set forth in any one of SEQ ID NOs: 16, 17 and 36-64;

(c) an intergenic region, and said tumor antigen peptide comprises the amino acid sequence set forth in any one of SEQ ID NOs: 65-84;

(d) an exon of a noncoding RNA transcript (ncRNA), and said tumor antigen peptide comprises the amino acid sequence set forth in any one of SEQ ID NOs: 4 and 85-92; or

(e) an antisense strand of a gene, and said tumor antigen peptide comprises the amino acid sequence set forth in any one of SEQ ID NOs: 93-99.

10. A nucleic acid encoding the tumor antigen peptide of any one of claims 1-9.

11. The nucleic acid of claim 10, wherein said nucleic acid is an mRNA.

12. A composition comprising the tumor antigen peptide of any one of claims 1-9 or the nucleic acid of claim 10 or 11, or any combination thereof, and a pharmaceutically acceptable carrier.

13. A vaccine comprising the tumor antigen peptide of any one of claims 1-9, the nucleic acid of claim 10 or 11, or the composition of claim 12, and an adjuvant.

14. An isolated cell expressing at its surface major histocompatibility complex (MHC) class I molecules comprising the tumor antigen peptide of any one of claims 1-9 in their peptide binding groove.

15. The cell of claim 14, which is an antigen-presenting cell (APC).

16. A T-cell receptor (TCR) that specifically recognizes MHC class I molecules comprising the tumor antigen peptide of any one of claims 1-9 in their peptide binding groove.

17. An isolated $CD8^+$ T lymphocyte expressing at its cell surface the TCR of claim 16.

18. An isolated cell population comprising at least 0.5% of $CD8^+$ T lymphocytes as defined in claim 17.

19. Use of: (i) the tumor antigen peptide of any one of claims 1-9; (ii) the nucleic acid of claim 10 or 11; (iii) the composition of claim 12; (iv) the vaccine of claim 13; (v) the cell of claim 14 or 15; (vi) the $CD8^+$ T lymphocytes of claim 17; or (vii) the cell population of claim 18, for the manufacture of a medicament for treating ovarian cancer in a subject.

20. The use of claim 19, wherein said ovarian cancer is a serous carcinoma.

21. The use of claim 20, wherein said serous carcinoma is high-grade serous carcinoma (HGSC).

22. The use of any one of claims 19-21, further comprising the use of at least one additional antitumor agent or therapy.

23. The use of claim 22, wherein said at least one additional antitumor agent or therapy is a chemotherapeutic agent, immunotherapy, an immune checkpoint inhibitor, radiotherapy or surgery.

24. The (i) tumor antigen peptide of any one of claims 1-9; (ii) nucleic acid of claim 10 or 11; (iii) composition of claim 12; (iv) vaccine of claim 13; (v) cell of claim 14 or 15; (vi) $CD8^+$ T lymphocytes of claim 17; or (vii) cell population of claim 18, for use in treating ovarian cancer in a subject.

25. The tumor antigen peptide, nucleic acid, composition, vaccine, cell, $CD8^+$ T lymphocytes, or cell population for use according to claim 24, wherein said ovarian cancer is a serous carcinoma.

26. The tumor antigen peptide, nucleic acid, composition, vaccine, cell, $CD8^+$ T lymphocytes, or cell population for use according to claim 25, wherein said serous carcinoma is high-grade serous carcinoma (HGSC).

27. The tumor antigen peptide, nucleic acid, composition, vaccine, cell, $CD8^+$ T lymphocytes, or cell population for use according to any one of claims 24-26, wherein the tumor antigen peptide, nucleic acid, liposome, composition, vaccine, cell, $CD8^+$ T lymphocytes, or cell population is used in combination with at least one additional antitumor agent or therapy.

28. The tumor antigen peptide, nucleic acid, composition, vaccine, cell, $CD8^+$ T lymphocytes, or cell population for use according to claim 27, wherein said at least one additional antitumor agent or therapy is a chemotherapeutic agent, immunotherapy, an immune checkpoint inhibitor, radiotherapy or surgery.