

Claims

1. A composition comprising
 - 2, 3, 4, 5, 6 or 7 peptides, or one or more expression vector(s) that induce(s)
5 expression of said 2, 3, 4, 5, 6 or 7 peptides *in vivo*, the peptides having from 9 to 100 amino acid residues, each one comprising at least one of the epitopes of sequences SEQ ID NO: 1-7, and each peptide comprising at least one different epitope with respect to the others; or
 - at least one peptide, or an expression vector that induces expression of said at
10 least one peptide *in vivo*, said peptide having from 9 to 100 amino acids residues and comprising 2, 3, 4, 5, 6 or 7 of the epitopes of sequences SEQ ID NO: 1-7;
and a pharmaceutically acceptable vehicle or excipient.
2. The composition of claim 1, comprising or expressing one or more peptides comprising the epitopes of sequence SEQ ID NO: 1 and/or 6.
- 15 3. The composition of claim 1 or 2, comprising or expressing 3, 4, 5, 6, or the 7 peptides comprising the epitopes of sequences SEQ ID NO: 1 to 7.
4. The composition of claim 1 wherein the peptides comprise 9 to 100, 70, 50, 40, 30, 25, or 20 amino acid residues and at least one of said epitopes of sequence SEQ ID NO: 1 to 7.
- 20 5. The composition of claim 4, wherein each peptide of 9 to 100, 70, 50, 40, 30, 25, or 20 amino acid residues comprises one specific epitope of SEQ ID NO: 1, 2, 3, 4, 5, 6 or 7.
6. The composition of any one of claims 1 to 5, wherein the peptide(s) comprise(s) 9 to 100, 70, 50, 40, 30, 25, or 20 consecutive amino acid residues of an
25 HERV gag or pol including at least one of said epitopes of sequence SEQ ID NO: 1 to 7.
7. The composition of any one of claims 1 to 5, wherein the peptide(s) comprise(s) 13, 14, 15, 16, 17, or 18, consecutive amino acid residues of an HERV gag or pol including at least one of said epitopes of sequence SEQ ID NO: 1 to 7.
8. The composition of claim 1, wherein the peptides are selected from the
30 group consisting of SEQ ID NO: 8-14 and the composition comprises 2, 3, 4, 5, 6 or 7 of them.
9. The composition of claim 1, wherein the peptides consist of 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 consecutive amino acid residues of sequences SEQ ID NO: 8-14, including the 9-mer epitope, and the
35 composition comprises 2, 3, 4, 5, 6 or 7 of them.

10. Vaccine or immunogenic composition comprising the composition of any one of claim 1 to 9 and a pharmaceutically acceptable vehicle or excipient and preferably an adjuvant.

5 11. Composition comprising Cytotoxic T Lymphocytes (CTLs) of a patient treated with a peptide as described in any one of claims 1-9, or comprising T-cell Receptor (TCR) engineered T cells recognizing a peptide as described in any one of claims 1-7, and a pharmaceutical vehicle.

10 12. Composition according to any one of claims 1 to 11, for use in treating cancer, in particular breast cancer, including triple negative breast cancer, ovarian cancer, melanoma, sarcoma, teratocarcinoma, bladder cancer, lung cancer (non small cell lung carcinoma and small cell lung carcinoma), head and neck cancer, colo-rectal cancer, glioblastoma and leukemias.

15 13. Isolated peptide selected from the group consisting of the peptides of sequence SEQ ID NO: 2-14, and the peptides having 10 to 100, 70, 50, 40, 30, 25, or 20 amino acids and comprising at least one of said peptides of SEQ ID NO: 2-7.