

What is claimed is

1. A peptide consisting of 10 to 45 amino acids and comprising
5 the amino acid sequence of KILQQSRIVQX, wherein X is absent or S;
an amino acid sequence of 10 or more contiguous amino acids in the amino acid sequence of DVQKIVESQINFHGKKLKLGP AIRKQNL CAYHVQPRPL (SEQ ID NO: 16); or
10 the amino acid sequence of QNLNHYIQVLENLVR SVPS (SEQ ID NO: 9),
or
a peptide having an amino acid sequence that is different from the amino acid sequence of the former peptide in that
15 1 to 3 amino acids are substituted, deleted or added and being capable of activating a helper T-cell.
2. The peptide according to claim 1, which is
a peptide consisting of 10 to 25 amino acids and comprising
20 the amino acid sequence of KILQQSRIVQX, wherein X is absent or S,
or
a peptide having an amino acid sequence that is different from the amino acid sequence of the former peptide in that
25 one amino acid is substituted, deleted or added and being capable of activating a helper T-cell.
3. The peptide according to claim 2, consisting of 10 to 25 amino acids and comprising the amino acid sequence of
30 KILQQSRIVQX, wherein X is absent or S.

4. The peptide according to claim 3, consisting of contiguous amino acids in the amino acid sequence of SEQ ID NO: 1.
- 5 5. The peptide according to claim 3 or 4, comprising an amino acid sequence selected from the group consisting of KILQQSRIVQSQ (SEQ ID NO: 5), QKILQQSRIVQS (SEQ ID NO: 6), and QQKILQQSRIVQ (SEQ ID NO: 7).
- 10 6. The peptide according to claim 1, consisting of 10 to 45 amino acids and comprising an amino acid sequence of 10 or more contiguous amino acids in the amino acid sequence of DVQKIVESQINFHGKKLKLGPAIRKQNLCAHYVQPRPL (SEQ ID NO: 16).
- 15 7. The peptide according to claim 1 or 6, comprising an amino acid sequence selected from the group consisting of DVQKIVESQINFHGKKLKLG (SEQ ID NO: 17), INFHGKKLKLGPAIRKQNL (SEQ ID NO: 18), and LGPAIRKQNLCAHYVQPRPL (SEQ ID NO: 19).
- 20 8. The peptide according to any one of claims 1, 6, and 7, consisting of an amino acid sequence selected from the group consisting of DVQKIVESQINFHGKKLKLG (SEQ ID NO: 17), INFHGKKLKLGPAIRKQNL (SEQ ID NO: 18), and LGPAIRKQNLCAHYVQPRPL (SEQ ID NO: 19).
- 25 9. The peptide according to claim 1, consisting of 19 to 25 amino acids and comprising the amino acid sequence of QNLNHYIQVLENLVRVPS (SEQ ID NO: 9).
- 30 10. The peptide according to claim 1 or 9, consisting of the amino acid sequence of QNLNHYIQVLENLVRVPS (SEQ ID NO:

9) .

11. A nucleic acid which encodes the peptide according to any one of claims 1 to 10.

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12. A pharmaceutical composition comprising the peptide according to any one of claims 1 to 10, the nucleic acid according to claim 11, an expression vector comprising the nucleic acid according to claim 11, an HLA multimer comprising the peptide according to any one of claims 1 to 10 and an HLA class II molecule, an antigen-presenting cell presenting a complex of the peptide according to any one of claims 1 to 10 and an HLA class II molecule, or a helper T-cell capable of recognizing a complex of the peptide according to any one of claims 1 to 10 and an HLA class II molecule.

13. The pharmaceutical composition according to claim 12, further comprising a DNA methyltransferase inhibitor or used in combination with a DNA methyltransferase inhibitor.

14. The pharmaceutical composition according to claim 12 or 13, for treating or preventing a cancer.

15. The pharmaceutical composition according to claim 12 or 13, which is a cancer vaccine.

16. The pharmaceutical composition according to claim 12 or 13 for use in treating or preventing a cancer.

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17. Use of the pharmaceutical composition according to

claim 12 or 13 in the manufacture of a medicament for treating or preventing a cancer.

18. The use according to claim 17, wherein the medicament
5 is a cancer vaccine.