

CLAIMS

1. An isolated immunogenic peptide consisting of amino acid sequence
HCPYCSLQPLALEGSLQKRG [SEQ ID NO: 26].
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2. The peptide according to claim 1 for use as a medicament.
3. The peptide according to claim 1 for use in the treatment or prevention of
type 1 diabetes.
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4. A pharmaceutical composition comprising the peptide of claim 1 and a
pharmaceutically acceptable carrier.
5. An in vitro method for the generation of a population of cytolytic CD4+ T
15 cells, against APC presenting insulin epitopes, comprising the steps of:
 - providing peripheral blood cells;
 - contacting said cells in vitro with the peptide of claim 1; and
 - expanding said cells in the presence of IL-2.
- 20 6. A population of cytolytic CD4+ T cells, against APC presenting insulin
epitopes, obtainable by the method of claim 5.
7. A population of cytolytic CD4+ T cells, against APC presenting insulin epitopes,
obtainable by the method of claim 5, for use as a medicament.
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8. A population of cytolytic CD4+ T cells, against APC presenting insulin
epitopes, obtainable by the method of claim 5, for use in the treatment or
prevention of type 1 diabetes.
- 30 9. The isolated immunogenic peptide according to any one of claims 1 to 3, or
the pharmaceutical composition according to claim 4, for use in treatment or
prevention of type 1 diabetes, or for reducing the symptoms of type 1
diabetes.
- 35 10. A peptide with a length of between 12 and 50 amino acids, comprising the
tetrapeptide sequence Cxx[CST] [SEQ ID NO: 1] or [CST]xxC [SEQ ID NO: 2]

and, separated from this tetrapeptide by 0 to 4 amino acids, the sequence LALEGLQK [SEQ ID NO: 3].

11. The peptide according to claim 10, comprising the sequence
5 Cxx[CST]SLQPLALEGLQK [SEQ ID NO: 4] or [CST]xxCSLQPLALEGLQK [SEQ ID NO:5].
12. The peptide according to claim 10 or 11, comprising the sequence
10 CxxCSLQPLALEGLQK [SEQ ID NO: 6].
13. The peptide according to any one of claims 10 to 12, comprising the sequence
HCxx[CST]SLQPLALEGLQK [SEQ ID NO:7] or H[CST]xxCSLQPLALEGLQK [SEQ ID NO:8].
14. The peptide according to any one of claims 10 to 13, comprising the sequence
15 HCxxCSLQPLALEGLQK [SEQ ID NO: 9].
15. The peptide according to any one of claims 10 to 14, comprising the sequence
20 Cxx[CST] [SEQ ID NO: 1] or [CST]xxC [SEQ ID NO: 2] redox motif sequence and the sequence SLQPLALEGLQKRG [SEQ ID NO: 20].