

CLAIMS

1. An isolated immunogenic peptide of between 12 and 100 amino acids comprising a CD1d binding peptide epitope of an antigen with a [FWYHT]-X(2)-[VILM]-X(2)-[FWYHT] [SEQ ID NO: 60] sequence motif, and immediately adjacent or separated by at most 7 amino acids from the epitope a [HW]-X(0,2)-C-X(2)-[CST] ([SEQ ID NO: 1], [SEQ ID NO: 2], [SEQ ID NO: 3]), or a [CST]-X(2)-C-X(0,2)-[HW] ([SEQ ID NO: 4], [SEQ ID NO: 5], [SEQ ID NO: 6]) redox motif sequence.
2. A peptide according to Claim 1, with the proviso that the antigen does not contain in its sequence the CD1d binding peptide motif within a distance of 10 amino acids of the redox motif.
3. A peptide according to Claim 1, with the proviso that the antigen does not contain in its sequence the redox motif within a distance of 10 amino acids of the epitope.
4. A peptide according to Claim 1, 2 or 3, in which the CD1d binding peptide sequence motif is [FWY]-X(2)-[VILM]-X(2)-[FWY] [SEQ ID NO: 63].
5. A peptide according to any preceding claim, in which the redox motif is [HW]-C-X(2)-[CST] [SEQ ID NO: 1] or [CST]-X(2)-C-[HW] [SEQ ID NO: 4].
6. A peptide according to any preceding claim, in which the redox motif is [HW]-C-X(2)-C [SEQ ID NO: 7] or C-X(2)-C-[HW] [SEQ ID NO: 10].
7. A peptide according to any preceding claim, in which the redox motif is H-C-X(2)-C [SEQ ID NO: 48] or C-X(2)-C-H [SEQ ID NO: 42].
8. A peptide according to any preceding claim, in which the peptide has a length of between 12 and 50 amino acids.
9. A peptide according to any preceding claim, in which the epitope comprises the MOG NKT epitope FLRVPCWKI.
10. A peptide according to any preceding claim, in which the peptide comprises the sequence: GGFLRVPCWKI [SEQ ID NO: 85]; comprises the sequence: CGPCGGFLRVPCWKI; comprises the sequence: HCGPCGGFLRVPCWKI [SEQ ID NO : 87]; or comprises the sequence WCGPCGGFLRVPCWKI [SEQ ID NO: 88]..

11. A peptide according to any preceding claim, in which the redox motif sequence is H-C-X(2)-[CST] [SEQ ID NO: 101] or [CST]-X(2)-C-H [SEQ ID NO: 102].

12. A peptide according to any preceding claim for use in the treatment of a disease.

13. A peptide for use according to Claim 12, in which the disease comprises multiple sclerosis.

14. Use of a peptide according to any of Claims 1 to 11 in the manufacture of a medicament for the treatment of multiple sclerosis.

15. A method for obtaining a population of NKT cells which are cytolytic against cells presenting an antigen with a CD1d binding peptide epitope, the method comprising the steps of:

providing peripheral blood cells;

contacting the cells *in vitro* with an immunogenic peptide of between 12 and 100 amino acids comprising a CD1d binding peptide epitope of an antigen with a [FWYHT]-X(2)-[VILM]-X(2)-[FWYHT] [SEQ ID NO: 60] sequence motif, and immediately adjacent or separated by at most 7 amino acids from the epitope a [HW]-X(0,2)-C-X(2)-[CST] ([SEQ ID NO: 1], [SEQ ID NO: 2], [SEQ ID NO: 3]) or a [CST]-X(2)-C-X(0,2)-[HW] ([SEQ ID NO: 4], [SEQ ID NO: 5], [SEQ ID NO: 6]) redox motif sequence; and

expanding the cells in the presence of IL-2.

16. A method for preparing a peptide comprising the step of:

identifying within an antigen a sequence with an [FWYHT]-X(2)-[VILM]-X(2)-[FWYHT] [SEQ ID NO: 60] sequence motif;

preparing a peptide of between 12 and 100 amino comprising the above identified sequence and immediately adjacent or separated by at most 7 amino acids therefrom a [HW]-X(0,2)-C-X(2)-[CST] ([SEQ ID NO: 1], [SEQ ID NO: 2], [SEQ ID NO: 3]) or [CST]-X(2)-C-X(0,2)-[HW] ([SEQ ID NO: 4], [SEQ ID NO: 5], [SEQ ID NO: 6]) redox motif sequence.