

Claims

1. An antigen-binding molecule, optionally isolated, which is capable of binding to CD122 and common γ chain (CD132), comprising:

(a) an antigen-binding molecule which is capable of binding to CD122, comprising:

a heavy chain variable (VH) region incorporating the following CDRs:

HC-CDR1 having the amino acid sequence of SEQ ID NO:103

HC-CDR2 having the amino acid sequence of SEQ ID NO:116

HC-CDR3 having the amino acid sequence of SEQ ID NO:128; and

a light chain variable (VL) region incorporating the following CDRs:

LC-CDR1 having the amino acid sequence of SEQ ID NO:145

LC-CDR2 having the amino acid sequence of SEQ ID NO:162

LC-CDR3 having the amino acid sequence of SEQ ID NO:177; and

(b) an antigen-binding molecule which is capable of binding to CD132, comprising:

a VH region incorporating the following CDRs:

HC-CDR1 having the amino acid sequence of SEQ ID NO:196

HC-CDR2 having the amino acid sequence of SEQ ID NO:204

HC-CDR3 having the amino acid sequence of SEQ ID NO:212; and

a VL region incorporating the following CDRs:

LC-CDR1 having the amino acid sequence of SEQ ID NO:227

LC-CDR2 having the amino acid sequence of SEQ ID NO:238

LC-CDR3 having the amino acid sequence of SEQ ID NO:248.

2. The antigen-binding molecule according to claim 1, wherein the antigen-binding molecule which is capable of binding to CD122 comprises:

a VH region comprising an amino acid sequence having at least 85% sequence identity to SEQ ID NO:1; and

a VL region comprising an amino acid sequence having at least 85% sequence identity to SEQ ID NO:35.

3. The antigen-binding molecule according to claim 1 or claim 2, wherein the antigen-binding molecule which is capable of binding to CD132 comprises:

a VH region comprising an amino acid sequence having at least 85% sequence identity to SEQ ID NO:71; and

a VL region comprising an amino acid sequence having at least 85% sequence identity to SEQ ID NO:89.

4. The antigen-binding molecule according to any one of claims 1 to 3, which is capable of reducing expression of PD-1 by T cells.

5. A nucleic acid, optionally isolated, encoding an antigen-binding molecule according to any one of claims 1 to 4.

6. An expression vector comprising a nucleic acid according to claim 5.

7. A cell comprising an antigen-binding molecule according to any one of claims 1 to 4, a nucleic acid according to claim 5, or an expression vector according to claim 6.

8. A method for producing an antigen-binding molecule according to any one of claims 1 to 34, the method comprising culturing a cell comprising a nucleic acid according to claim 5 or an expression vector according to claim 6 under conditions suitable for expression of the antigen-binding molecule from the nucleic acid or expression vector.

9. A composition comprising an antigen-binding molecule according to any one of claims 1 to 4, a nucleic acid according to claim 5, an expression vector according to claim 6 or a cell according to claim 7.

10. An antigen-binding molecule according to any one of claims 1 to 4, a nucleic acid according to claim 5, an expression vector according to claim 6, a cell according to claim 7 or a composition according to claim 9, for use in a method of medical treatment or prophylaxis.

11. Use of an antigen-binding molecule according to any one of claims 1 to 4, a nucleic acid according to claim 5, an expression vector according to claim 6, a cell according to claim 7 or a composition according to claim 9, in the manufacture of a medicament for use in a method of treatment or prevention of a cancer.

12. The use according to claim 11, wherein the cancer is selected from the group consisting of: colon cancer, colon carcinoma, colorectal cancer, nasopharyngeal carcinoma, cervical carcinoma, oropharyngeal carcinoma, gastric carcinoma, hepatocellular carcinoma, head and neck cancer, head and neck squamous cell carcinoma (HNSCC), oral cancer, laryngeal cancer, prostate cancer, lung cancer, small cell lung cancer, non-small cell lung cancer, bladder cancer, urothelial carcinoma, melanoma, advanced melanoma, renal cell carcinoma, ovarian cancer or mesothelioma.

13. Use of an antigen-binding molecule according to any one of claims 1 to 4, a nucleic acid according to claim 5, an expression vector according to claim 6, a cell according to claim 7 or a composition according to claim 9, in the manufacture of a medicament for use in a method of treatment or prevention of a T cell dysfunctional disorder.

14. Use of an antigen-binding molecule according to any one of claims 1 to 4, a nucleic acid according to claim 5, an expression vector according to claim 6, a cell according to claim 7 or a composition according to claim 9, in the manufacture of a medicament for use in a method of treatment or prevention of an infectious disease.

15. The use according to any one of claims 11 to claim 14, wherein the antigen binding molecule is administered in combination with a therapeutically effective amount of an agent capable of inhibiting signalling mediated by an immune checkpoint protein.

5 16. The use according to claim 15, wherein the immune checkpoint protein is PD-1, CTLA-4, LAG-3, TIM-3, VISTA, TIGIT or BTLA.

17. A method for generating or expanding a population of immune cells, comprising contacting immune cells *in vitro* or *ex vivo* with an antigen-binding molecule according to any one of claims 1 to 4.

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