

ii) or humanized variant of the VH and VL of the antibody under i).

In another aspect, the disclosure provides an isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:58.

5 In another aspect, the disclosure provides an isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:59.

In another aspect, the disclosure provides an isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL
10 sequence of SEQ ID NO:60.

In another aspect, the disclosure provides an isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:61.

15 In one embodiment the anti-PD1 antibody according to the disclosure is a monoclonal antibody.

In one embodiment the anti-PD1 antibody according to the disclosure is a human, humanized, or chimeric antibody.

Patent Claims

1. An isolated antibody that binds to human PD1, wherein the antibody comprises
 - (a) HVR-H1 comprising the amino acid sequence of SEQ ID NO:71; (b) HVR-H2 comprising the amino acid sequence of SEQ ID NO:72; (c) HVR-H3 comprising the amino acid sequence of SEQ ID NO:73; (d) HVR-L1 comprising the amino acid sequence of SEQ ID NO:74; (e) HVR-L2 comprising the amino acid sequence of SEQ ID NO:75; (f) HVR-L3 comprising the amino acid sequence of SEQ ID NO:76, and (g) FR-H3 comprising the amino acid sequence of SEQ ID NO: 77 (of RDN) at positions of 71, 72 and 73 according to Kabat numbering.
2. The isolated antibody that binds to human PD1 according to claim 1, wherein the antibody comprises
 - A)
 - i) a VH sequence of SEQ ID NO:7 and a VL sequence of SEQ ID NO:8; or
 - ii) humanized variant of the VH and VL of the antibody under i);
 - or B)
 - i) a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:58;
 - ii) a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:59;
 - iii) a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:60; or
 - iv) a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:61.
3. An isolated antibody that binds to human PD1, wherein the antibody comprises
 - (a) HVR-H1 comprising the amino acid sequence of SEQ ID NO:1; (b) HVR-H2 comprising the amino acid sequence of SEQ ID NO:2; (c) HVR-H3 comprising the amino acid sequence of SEQ ID NO:3; (d) HVR-L1 comprising the amino acid sequence of SEQ ID NO:4; (e) HVR-L2 comprising the amino acid sequence of SEQ ID NO:5; and (f) HVR-L3 comprising the amino acid sequence of SEQ ID NO:6.
4. An isolated antibody that binds to human PD1, wherein the antibody comprises

- (a) a VH domain comprising (i) HVR-H1 comprising the amino acid sequence of SEQ ID NO:1, (ii) HVR-H2 comprising the amino acid sequence of SEQ ID NO:2, and (iii) HVR-H3 comprising an amino acid sequence selected from SEQ ID NO:3; and (b) a VL domain comprising (i) HVR-L1 comprising the amino acid sequence of SEQ ID NO:4; (ii) HVR-L2 comprising the amino acid sequence of SEQ ID NO:5 and (iii) HVR-L3 comprising the amino acid sequence of SEQ ID NO:6.
5. An isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:58.
 6. An isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:59.
 7. An isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:60.
 8. An isolated antibody that binds to human PD1, wherein the antibody comprises a VH sequence of SEQ ID NO:57 and a VL sequence of SEQ ID NO:61.
 9. The antibody according to any one of the preceding claims, which is a full length IgG1 antibody with mutations L234A, L235A and P329G (numbering according to the EU index of Kabat).
 10. Isolated nucleic acid encoding the antibody according to any one of the preceding claims.
 11. A host cell comprising the nucleic acid of claim 10.
 12. A method of producing an antibody comprising culturing the host cell of claim 11 so that the antibody is produced.
 13. The method of claim 12, further comprising recovering the antibody from the host cell.
 14. A pharmaceutical formulation comprising the antibody according to any one of claims 1 to 8 and a pharmaceutically acceptable carrier.
 15. The antibody according to any one of claims 1 to 8 for use as a medicament.

16. The antibody according to any one of claims 1 to 8 for use in treating cancer.
17. Use of the antibody according to any one of claims 1 to 8 in the manufacture of a medicament for the treatment of cancer.