

Claims

1. An anti-PD-L1 antibody or antigen binding fragment thereof, wherein the antibody comprises a heavy chain complementarity determining region (CDR H) of CDR H1, CDR H2, and CDR H3, and light chain complementarity determining regions (CDR L) of CDR L1, CDR L2, and CDR L3, wherein:

a) the CDR H1 comprising an amino acid sequence selected from SEQ ID NO: 7, SEQ ID NO: 13, SEQ ID NO: 19, SEQ ID NO: 64, SEQ ID NO: 70, SEQ ID NO: 76 or SEQ ID NO: 82;

b) the CDR H2 comprising an amino acid sequence selected from SEQ ID NO: 8, SEQ ID NO: 14, SEQ ID NO: 20, SEQ ID NO: 65, SEQ ID NO: 71, SEQ ID NO: 77 or SEQ ID NO: 83; and

c) the CDR H3 comprising an amino acid sequence selected from SEQ ID NO: 9, SEQ ID NO: 15, SEQ ID NO: 21, SEQ ID NO: 66, SEQ ID NO: 72, SEQ ID NO: 78 or SEQ ID NO: 84;

d) the CDR L1 comprising an amino acid sequence selected from SEQ ID NO: 10, SEQ ID NO: 16, SEQ ID NO: 22, SEQ ID NO: 67, SEQ ID NO: 73, SEQ ID NO: 79 or SEQ ID NO: 85;

e) the CDR L2 comprising an amino acid sequence selected from SEQ ID NO: 11, SEQ ID NO: 17, SEQ ID NO: 23, SEQ ID NO: 68, SEQ ID NO: 74, SEQ ID NO: 80 or SEQ ID NO: 86; and

f) the CDR L3 comprising an amino acid sequence selected from SEQ ID NO: 12, SEQ ID NO: 18, SEQ ID NO: 24, SEQ ID NO: 69, SEQ ID NO: 75, SEQ ID NO: 81 or SEQ ID NO: 87.

2. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 1, wherein the CDR H1, CDR H2 and CDR H3 comprising SEQ ID NO: 13, SEQ ID NO: 14 and SEQ ID NO: 15, and the CDR L1, CDR L2 and CDR L3 comprising SEQ ID NO: 16, SEQ ID NO: 17 and SEQ ID NO: 18.

3. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 1, wherein the CDR H1, CDR H2 and CDR H3 comprising SEQ ID NO: 7, SEQ ID NO: 8 and SEQ ID NO: 9, and the CDR L1, CDR L2 and CDR L3 comprising SEQ ID NO: 10, SEQ ID NO: 11 and SEQ ID NO: 12.

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4. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 1, wherein the CDR H1, CDR H2 and CDR H3 comprising SEQ ID NO: 19, SEQ ID NO: 20 and SEQ ID NO: 21, and the CDR L1, CDR L2 and CDR L3 comprising SEQ ID NO: 22, SEQ ID NO: 23 and SEQ ID NO: 24.

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5. An anti-PD-L1 antibody or antigen binding fragment thereof, wherein the anti-PD-L1 antibody or antigen binding fragment thereof comprises a heavy chain variable region (VH) and a light chain variable region (VL), wherein:

(1) the VH comprises the amino acid sequence selected from SEQ ID NO: 1, SEQ ID NO: 39, SEQ ID NO: 40, SEQ ID NO: 41 or SEQ ID NO: 42, and the VL comprises the amino acid sequence selected from SEQ ID NO: 2, SEQ ID NO: 43, SEQ ID NO: 44 or SEQ ID NO: 45;

(2) the VH comprises the amino acid sequence selected from SEQ ID NO: 3, SEQ ID NO: 31, SEQ ID NO: 32, SEQ ID NO: 33 or SEQ ID NO: 34, and the VL comprises the amino acid sequence selected from SEQ ID NO: 4, SEQ ID NO: 35, SEQ ID NO: 36, SEQ ID NO: 37 or SEQ ID NO: 38.

(3) the VH comprises the amino acid sequence selected from SEQ ID NO: 5, SEQ ID NO: 46, SEQ ID NO: 47 or SEQ ID NO: 48, and the VL comprises an amino acid sequence selected from SEQ ID NO: 6, SEQ ID NO: 49, SEQ ID NO: 50 or SEQ ID NO: 51;

(4) the VH comprises the amino acid sequence SEQ ID NO: 56, and the VL comprises the amino acid sequence 57;

(5) the VH comprises the amino acid sequence SEQ ID NO: 58, and the VL comprises the amino acid sequence 59;

(6) the VH comprises the amino acid sequence SEQ ID NO: 60, and the VL comprises the amino acid sequence 61; or

(7) the VH comprises the amino acid sequence SEQ ID NO: 62, and the VL comprises the amino acid sequence 63.

5 6. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 5, wherein the VH comprises the amino acid sequence SEQ ID NO: 39, and the VL comprises the amino acid sequence SEQ ID NO: 43.

10 7. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 5, wherein the VH comprises the amino acid sequence SEQ ID NO: 39, and the VL comprises the amino acid sequence SEQ ID NO: 44.

15 8. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 5, wherein the VH comprises the amino acid sequence SEQ ID NO: 39, and the VL comprises the amino acid sequence SEQ ID NO: 45.

9. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 5, wherein the VH comprises the amino acid sequence SEQ ID NO: 31, and the VL comprises the amino acid sequence SEQ ID NO: 35.

20 10. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 5, wherein the VH comprises the amino acid sequence SEQ ID NO: 46, and the VL comprises the amino acid sequence SEQ ID NO: 49.

25 11. The anti-PD-L1 antibody or antigen binding fragment thereof of claim 5, wherein the VH comprises the amino acid sequence SEQ ID NO: 31, and the VL comprises the amino acid sequence SEQ ID NO: 37.

30 12. The anti-PD-L1 antibody or antigen-binding fragment thereof of any one of claims 1-11, wherein the anti-PD-L1 antibody or antigen-binding fragment thereof is a bispecific antibody.

13. A nucleotide sequence encoding a polypeptide of the anti-PD-L1 antibody or antigen-binding fragment thereof of any one of claims 1-12, or encoding a VH or VL of the anti-PD-L1 antibody or antigen-binding fragment thereof any one of claims 1-12.

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14. A vector comprising the nucleotide sequence of claim 13.

15. A recombinant host cell comprising the nucleotide sequence of claim 13, or the vector of claim 14.

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16. A hybridoma cell producing the anti-PD-L1 antibody or antigen binding fragment thereof of any one of claims 1-12.

17. A conjugate comprising the anti-PD-L1 antibody or antigen binding fragment thereof of any one of claims 1-12, and a moiety conjugated thereto, wherein the moiety is selected from cytotoxins, radioisotopes, fluorescent labels, luminescent substances, chromogenic substances or enzymes.

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18. A composition comprising the anti-PD-L1 antibody or antigen binding fragment thereof of any one of claims 1-12, or the conjugate of claim 17, and optionally one or more pharmaceutically acceptable carriers, excipients and/or diluents.

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19. Use of the anti-PD-L1 antibody or antigen binding fragment thereof of any one of claims 1-12, the conjugate of claim 17, or the composition of claim 18 in the manufacture of a medicament for treating cancer, wherein the cancer is selected from:

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melanoma, lymphoma, bladder cancer, non-small cell lung cancer, head and neck cancer, colon cancer or skin cancer.

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20. An anti-PD-L1 antibody or antigen-binding fragment thereof, comprising

a VH comprising CDR H1, CDR H2, CDR H3, and a VL comprising CDR L1, CDR L2, CDR L3, wherein the CDR H1, CDR H2, CDR H3, and the CDR L1, CDR L2, CDR L3 are identical to CDR H1, CDR H2, CDR H3, and CDR L1, CDR L2, CDR L3 of the anti-PD-L1 antibody or antigen-binding fragment thereof of claim 5.