

CLAIMS

1. An isolated antibody or antigen binding fragment thereof (AB), wherein the AB comprises:
 - (a) a heavy chain variable region (VH) comprising:
 - i. a variable heavy chain complementarity determining region 1 (VH CDR1) comprising the amino acid sequence of SEQ ID NO: 212;
 - ii. a variable heavy chain complementarity determining region 2 (VH CDR2) comprising the amino acid sequence of SEQ ID NO: 246;
 - iii. a variable heavy chain complementarity determining region 3 (VH CDR3) comprising the amino acid sequence of SEQ ID NO: 235; and
 - (b) a light chain variable region (VL) comprising:
 - i. a variable light chain complementarity determining region 1 (VL CDR1) comprising the amino acid sequence of SEQ ID NO: 209;
 - ii. a variable light chain complementarity determining region 2 (VL CDR2) comprising an amino acid sequence of SEQ ID NOs: 215 or 227; and
 - iii. a variable light chain complementarity determining region 3 (VL CDR3) comprising the amino acid sequence of SEQ ID NO: 228,wherein the AB specifically binds mammalian PDL1.
2. A conjugated antibody comprising the antibody of claim 1 conjugated to an agent.
3. The antibody of claim 1, wherein the VL CDR2 comprises the amino acid sequence of SEQ ID NO: 215.
4. A pharmaceutical composition comprising the antibody of claim 1 and a carrier.
5. A pharmaceutical composition comprising the conjugated antibody of claim 2 and a carrier.
6. An activatable antibody comprising the following structure:
 - (1) an antibody or an antigen binding fragment thereof (AB) that specifically binds to mammalian PDL1, wherein the AB comprises:

- (a) a variable heavy chain region (VH) comprising:
 - i. a variable heavy chain complementarity determining region 1 (VH CDR1) comprising the amino acid sequence of SEQ ID NO: 212;
 - ii. a variable heavy chain complementarity determining region 2 (VH CDR2) comprising the amino acid sequence of SEQ ID NO: 246; and
 - iii. a variable heavy chain complementarity determining region 3 (VH CDR3) comprising the amino acid sequence of SEQ ID NO: 235; and
 - (b) a variable light chain region (VL) comprising:
 - i. a variable light chain complementarity determining region 1 (VL CDR1) comprising the amino acid sequence of SEQ ID NO: 209;
 - ii. a variable light chain complementarity determining region 2 (VL CDR2) comprising an amino acid sequence of SEQ ID NOs: 215 or 227; and
 - iii. a variable light chain complementarity determining region 3 (VL CDR3) comprising the amino acid sequence of SEQ ID NO: 228;
 - (2) a masking moiety (MM) comprising the amino acid sequence of SEQ ID NO: 63; and
 - (3) a cleavable moiety (CM) comprising the amino acid sequence of SEQ ID NO: 377.
7. The activatable antibody of claim 6, wherein the AB is linked to the CM.
8. The activatable antibody of claim 7, wherein the AB is linked directly to the CM.
9. The activatable antibody of claim 7, wherein the AB is linked to the CM via a linking peptide.
10. The activatable antibody of claim 6, wherein the MM is linked to the CM such that the activatable antibody in an uncleaved state comprises the structural arrangement from N-terminus to C-terminus as follows: MM-CM-AB or AB-CM-MM.
11. The activatable antibody of claim 10, wherein the activatable antibody comprises a linking peptide between the MM and the CM, a linking peptide between the CM and the AB, or both a linking peptide between the MM and the CM and a linking peptide between the CM and the AB.

12. The activatable antibody of claim 10, wherein the activatable antibody comprises a first linking peptide (LP1) and a second linking peptide (LP2), and wherein the activatable antibody in the uncleaved state has the structural arrangement from N-terminus to C-terminus as follows: MM-LP1-CM-LP2-AB or AB-LP2-CM-LP1-MM.

13. The activatable antibody of claim 12, wherein the two linking peptides need not be identical to each other.

14. The activatable antibody of claim 12, wherein each of LP1 and LP2 is a peptide of about 1 to 20 amino acids in length.

15. A conjugated activatable antibody comprising the activatable antibody of claim 6 conjugated to an agent.

16. The conjugated activatable antibody of claim 15, wherein the agent has one or more of the following characteristics selected from the group consisting of:

- (i) the agent is a toxin or fragment thereof;
- (ii) the agent is a microtubule inhibitor;
- (iii) the agent is a nucleic acid damaging agent;
- (iv) the agent is a dolastatin or a derivative thereof;
- (v) the agent is an auristatin or a derivative thereof;
- (vi) the agent is a maytansinoid or a derivative thereof;
- (vii) the agent is a duocarmycin or a derivative thereof;
- (viii) the agent is a calicheamicin or a derivative thereof;
- (ix) the agent is auristatin E or a derivative thereof;
- (x) the agent is monomethyl auristatin E (MMAE);
- (xi) the agent is monomethyl auristatin D (MMAD);
- (xii) the agent is DM1;
- (xiii) the agent is DM4;
- (xiv) the agent is a detectable moiety;
- (xv) the agent is a diagnostic agent;

- (xvi) the agent is conjugated to the antibody via a linker;
- (xvii) the agent is conjugated to the antibody via a cleavable linker; and
- (xviii) the agent is conjugated to the antibody via a non-cleavable linker.

17. A pharmaceutical composition comprising the activatable antibody of claim 6 and a carrier.

18. The pharmaceutical composition of claim 17 comprising an additional agent.

19. The pharmaceutical composition of claim 18, wherein the additional agent is a therapeutic agent.

20. The activatable antibody of claim 6, wherein the VL CDR2 comprises the amino acid sequence of SEQ ID NO: 215.

21. The activatable antibody of claim 6, wherein the AB comprises a VH comprising the amino acid sequence of SEQ ID NO: 46 and a VL comprising the amino acid sequence of SEQ ID NO: 12.

22. The activatable antibody of claim 6, wherein the AB comprises a VH comprising the amino acid sequence of SEQ ID NO: 46 and a VL comprising the amino acid sequence of SEQ ID NO: 58.

23. The activatable antibody of claim 6, wherein the activatable antibody comprises a light chain comprising the amino acid sequence of SEQ ID NO: 137 and a VH comprising the amino acid sequence of SEQ ID NO: 46.

24. The activatable antibody of claim 6, wherein the activatable antibody comprises a light chain comprising the amino acid sequence of SEQ ID NO: 985 and a VH comprising the amino acid sequence of SEQ ID NO: 46.

25. The activatable antibody of claim 6, wherein the activatable antibody comprises a light chain comprising the amino acid sequence of SEQ ID NO: 428 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 432.
26. The activatable antibody of claim 6, wherein the activatable antibody comprises a light chain comprising the amino acid sequence of SEQ ID NO: 1008 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 432.
27. The pharmaceutical composition comprising the antibody of claim 3 and a carrier.
28. The pharmaceutical composition comprising the activatable antibody of claim 20 and a carrier.
29. A pharmaceutical composition comprising the activatable antibody of claim 25 and a carrier.
30. The pharmaceutical composition of claim 29 comprising an additional agent.
31. A pharmaceutical composition comprising the activatable antibody of claim 26 and a carrier.
32. A pharmaceutical composition comprising the activatable antibody of claim 24 and a carrier.
33. A pharmaceutical composition comprising the conjugated activatable antibody of claim 15 and a carrier.
34. Use of an effective amount of the antibody of claim 1, in the manufacture of a medicament for treating, preventing, delaying the progression of:
- a) a cancer;
 - b) an autoimmune disease such as colitis, RA, pancreatitis, diabetes, or pneumonitis; or
 - c) other neoplastic condition;
- by reducing PDL1 activity, wherein the medicament is to be administered to a subject in need thereof.

35. Use of an effective amount of the antibody of claim 1, in the manufacture of a medicament for treating, preventing, delaying the progression of, ameliorating and/or alleviating a symptom of:

- a) a cancer;
- b) an autoimmune disease such as colitis, RA, pancreatitis, diabetes, or pneumonitis; or
- c) other neoplastic condition;

by blocking binding of a natural ligand to PDL1, wherein the medicament is to be administered to a subject in need thereof.

36. Use of an effective amount of the activatable antibody of claim 6, in the manufacture of a medicament for treating, preventing, delaying the progression of, ameliorating and/or alleviating a symptom of:

- a) a cancer;
- b) an autoimmune disease such as colitis, RA, pancreatitis, diabetes, or pneumonitis; or
- c) other neoplastic condition;

by reducing PDL1 activity, wherein the medicament is to be administered to a subject in need thereof.

37. Use of an effective amount of the activatable antibody of claim 6, in the manufacture of a medicament for treating, preventing, delaying the progression of, ameliorating and/or alleviating a symptom of:

- a) a cancer;
- b) an autoimmune disease such as colitis, RA, pancreatitis, diabetes, or pneumonitis; or
- c) other neoplastic condition;

by blocking binding of a natural ligand to PDL1, wherein the medicament is to be administered to a subject in need thereof.

38. The antibody of claim 1, for use in therapy.

39. The activatable antibody of claim 6, for use in therapy.