

CLAIMS

1. An agent comprising an anti-leukocyte immunoglobulin-like receptor B4 (LILRB4) antibody or a derivative thereof, wherein the antibody or derivative thereof inhibits binding between fibronectin and LILRB4.
2. The agent according to claim 1, wherein the antibody or derivative thereof inhibits the binding of the fibronectin to the LILRB4 via the amino acid sequence set forth in SEQ ID NO: 1.
3. The agent according to claim 1 or 2, wherein the antibody or derivative thereof is an immune checkpoint inhibitor.
4. The agent according to any one of claims 1-3, wherein (i) the antibody is a monoclonal antibody or a polyclonal antibody; and/or (ii) the derivative thereof is selected from F(ab')₂, F(ab)₂, Fab', Fab, Fv, scFv, mutants thereof, fusion proteins or fusion peptides thereof, and combinations thereof.
5. The agent according to any one of claims 1-4, wherein the antibody is an anti-human LILRB4 antibody.
6. The agent according to any one of claims 1-5, wherein the antibody or derivative thereof inhibits the binding between the fibronectin and the LILRB4 in a cell selected from plasma cells, T cells, macrophages, monocytes, dendritic cells, eosinophils, basophils, neutrophils, mast cells, and combination thereof.

7. Use of an agent comprising an anti-LILRB4 antibody, or a derivative thereof, in the manufacture of a medicament for inhibiting binding between fibronectin and LILRB4.
8. The use according to claim 7, wherein the antibody or derivative thereof inhibits the binding of the fibronectin to the LILRB4 via the amino acid sequence set forth in SEQ ID NO: 1.
9. The use according to claim 7 or 8, wherein the antibody or derivative thereof is an immune checkpoint inhibitor.
10. The use according to any one of claims 7-9, wherein (i) the antibody is a monoclonal antibody or a polyclonal antibody; and/or (ii) the derivative thereof is selected from F(ab')₂, F(ab)₂, Fab', Fab, Fv, scFv, mutants thereof, fusion proteins or fusion peptides thereof, and combinations thereof.
11. The use according to any one of claims 7-10, wherein antibody is an anti-human LILRB4 antibody.
12. The use according to any one of claims 7-11, wherein the antibody or derivative thereof inhibits the binding between the fibronectin and the LILRB4 in a cell selected from plasma cells, T cells, macrophages, monocytes, dendritic cells, eosinophils, basophils, neutrophils, mast cells, and combination thereof.
13. Use of an agent comprising an anti-LILRB4 antibody, or a derivative thereof, in the manufacture of a medicament for treating an immune checkpoint-related disease,

optionally wherein the immune checkpoint-related disease is selected from an autoimmune disease, a cancer, an inflammatory disease, and an allergic disease and combinations thereof; further optionally wherein the cancer is a solid tumor.

14. The use according to claim 13, wherein the cancer is a metastatic cancer.

15. The use according to any one of claims 7-14, wherein the antibody or derivative thereof is to be administered to a subject in need thereof parenterally, intravenously, transdermally, intraperitoneally, or intramuscularly.