

Claims:

1. An antibody or antigen binding fragment, optionally isolated, which is capable of binding to IL-11R α , wherein the antibody or antigen binding fragment is capable of inhibiting IL-11 *trans* signalling, and wherein the antibody or antigen binding fragment comprises:

(i) a light chain variable region sequence comprising the following CDRs:

LC-CDR1: QSISNN (SEQ ID NO:33);

LC-CDR2: YAS (SEQ ID NO:34); and

LC-CDR3: QQRYSWPLT (SEQ ID NO:35), or a variant comprising 1 amino acid substitution in the sequence QQRYSWPLT (SEQ ID NO:35); and

(ii) a heavy chain variable region sequence comprising the following CDRs:

HC-CDR1: GYTFTNYW (SEQ ID NO:60);

HC-CDR2: IGPSDSKT (SEQ ID NO:61); and

HC-CDR3: ARGDYVLFTY (SEQ ID NO:62).

2. The antibody or antigen binding fragment according to claim 1, wherein:

the light chain variable region sequence has at least 80% sequence identity to SEQ ID NO:7, and;

the heavy chain variable region sequence has at least 80% sequence identity to SEQ ID NO:16.

3. The antibody or antigen binding fragment according to claim 1 or claim 2, conjugated to a drug moiety or a detectable moiety.

4. An *in vitro* complex, optionally isolated, comprising an antibody or antigen binding fragment, according to any one of claims 1 to 3 bound to IL-11R α .

5. A composition comprising the antibody or antigen binding fragment according to any one of claims 1 to 3, and at least one pharmaceutically-acceptable carrier.

6. An isolated nucleic acid encoding the antibody or antigen binding fragment according to any one of claims 1 to 3.

7. A vector comprising the nucleic acid of claim 6.

8. A host cell comprising the vector of claim 7.

9. A method for making an antibody or antigen binding fragment according to any one of claims 1 to 3, comprising culturing the host cell of claim 8 under conditions suitable for the expression of the antibody or antigen binding fragment, and recovering the antibody or antigen binding fragment.

10. An antibody or antigen binding fragment according to any one of claims 1 to 3, or a composition according to claim 5 for use in therapy, or in a method of medical treatment.
- 5 11. An antibody or antigen binding fragment according to any one of claims 1 to 3, or a composition according to claim 5 for use in the treatment or prevention of fibrosis, or a disease/disorder characterised by fibrosis.
- 10 12. An antibody or antigen binding fragment according to any one of claims 1 to 3, or a composition according to claim 5 for use in the treatment of a cancer.
- 15 13. Use of an antibody or antigen binding fragment according to any one of claims 1 to 3, or a composition according to claim 5 in the manufacture of a medicament for use in the treatment or prevention of fibrosis or a disease/disorder characterised by fibrosis.
- 20 14. Use of an antibody or antigen binding fragment according to any one of claims 1 to 3, or a composition according to claim 5 in the manufacture of a medicament for use in the treatment or prevention of a cancer.
- 25 15. A method comprising contacting a sample containing, or suspected to contain, IL-11R α with an antibody or antigen binding fragment according to any one of claims 1 to 3 and detecting the formation of a complex of the antibody or antigen binding fragment with IL-11R α .
- 30 16. A method of diagnosing a disease or condition in a subject, the method comprising contacting, *in vitro*, a sample from the subject with an antibody or antigen binding fragment according to any one of claims 1 to 3 and detecting the formation of a complex of the antibody or antigen binding fragment with IL-11R α .
- 35 17. A method of selecting or stratifying a subject for treatment with an IL-11R α -targeted agent, the method comprising contacting, *in vitro*, a sample from the subject with the antibody or antigen binding fragment according to any one of claims 1 to 3 and detecting the formation of a complex of the antibody or antigen binding fragment with IL-11R α .
18. Use of an antibody or antigen binding fragment according to any one of claims 1 to 3 for the detection of IL-11R α *in vitro*.
19. Use of an antibody or antigen binding fragment according to any one of claims 1 to 3 as an *in vitro* diagnostic or prognostic agent.

20. The use according to claim 13, wherein the fibrosis is fibrosis of an organ of the gastrointestinal system, respiratory system, cardiovascular system, nervous system, urinary system or musculoskeletal system, or the skin.

5 21. The use according to claim 13, wherein the fibrosis is fibrosis of one or more or organs selected from the lung, liver, kidney, heart, blood vessels, eye, skin, pancreas, spleen, bowel, large intestine, small intestine, brain and bone marrow.

10 22. The use according to claim 13, wherein the disease/disorder characterised by fibrosis selected from: pulmonary fibrosis, atrial fibrillation, ventricular fibrillation, hypertrophic cardiomyopathy (HCM), dilated cardiomyopathy (DCM), non-alcoholic steatohepatitis (NASH), cirrhosis, chronic kidney disease, scleroderma, systemic sclerosis, keloid, cystic fibrosis, Crohn's disease, post-surgical fibrosis, retinal fibrosis and retinal fibrosis associated with wet age-related macular degeneration (AMD).

15 23. The use according to claim 14, wherein the cancer is selected from: an epithelial cell cancer, breast cancer, gastrointestinal cancer, esophageal cancer, stomach cancer, pancreatic cancer, liver cancer, gallbladder cancer, colorectal cancer, anal cancer, gastrointestinal carcinoid tumor, lung cancer, non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC).

20 24. The use according to claim 14, wherein the cancer is selected from: gastrointestinal cancer, gastric cancer, colonic cancer, hepatocellular cancer, breast cancer, lung cancer and lung adenocarcinoma.

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