CLAIMS

WHAT IS CLAIMED IS:

1. An isolated antigen binding protein that binds IL-23 selected from the group consisting of

a) an antigen binding protein having CDRH1 of SEQ ID NO:129, CDRH2 of SEQ ID NO:132, CDRH3 of SEQ ID NO:136, and CDRL1 of SEQ ID NO:123, CDRL2 of SEQ ID NO:81, and CDRL3 of SEQ ID NO: 76;

b) an antigen binding protein having CDRH1 of SEQ ID NO:131, CDRH2 of SEQ ID NO: 134, CDRH3 of SEQ ID NO:137 and CDRL1 of SEQ ID NO:124, CDRL2 of SEQ ID NO126 and CDRL3 of SEQ ID NO:128;

c) a) an antigen binding protein having CDRH1 of SEQ ID NO:130, CDRH2 of SEQ ID NO:133, CDRH3 of SEQ ID NO:99 and CDRL1 of SEQ ID NO:68, CDRL2 of SEQ ID NO:69, and CDRL3 of SEQ ID NO:67; and

d) an antigen binding protein having CDRH1 SEQ ID NO:91, CDRH2 SEQ ID NO: 135, CDRH3 SEQ ID NO:138 and CDRL1 SEQ ID NO:125, CDRL2 SEQ ID NO:127, and CDRL3 SEQ ID NO:64.

2. An isolated antigen binding protein of claim 1 comprising:

a CDRH1 selected from the group consisting of SEQ ID NO: 91, 94, 97, 100, and 103;

a CDRH2 selected from the group consisting of SEQ ID NO:92, 95, 98, 101, 104, 107, and 110;

a CDRH3 selected from the group consisting of SEQ ID NO: 93, 96, 99, 102, and 105;

a CDRL1 selected from the group consisting of SEQ ID NO: 62, 65, 68, 71, and 74;

a CDRL2 selected from the group consisting of SEQ ID NO:63, 66, 69, 72, 75, and 78; and

a CDRL3 selected from the group consisting of SEQ ID NO:64, 67, 70 and 73.

3. An isolated antigen binding protein of claim 1, comprising:

a CDRH1 selected from the group consisting of SEQ ID NO: 91, 106, 109, 112, and 115;

a CDRH2 selected from the group consisting of SEQ ID NO: 113, 116, 118, 120, 121, and 122;

a CDRH3 selected from the group consisting of SEQ ID NO: 108, 111, 114, 117, and 119;

a CDRL1 selected from the group consisting of SEQ ID NO: 77, 80, 83, 85, 86, 87, 88, 89 and 90;

a CDRL2 is SEQ ID NO: 81; and

a CDRL3 selected from the group consisting of SEQ ID NO: 76, 79, 82 and 84.

4. An isolated antigen binding protein that binds IL-23 comprising at least one heavy chain variable region and at least one light chain variable region, selected from the group consisting of:

a) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 99-113 of SEQ ID NO:31; and

a light chain variable region comprising amino acid residues 23-36, 52-58 and 91-101 of SEQ ID NO:1;

b) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 99-110 of SEQ ID NO:34 and heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-110 of SEQ ID NO:36; and

a light chain variable region comprising amino acid residues 23-36, 52-62 and 97-105 of SEQ ID NO:4 ;

c) a heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-114 of SEQ ID NO:38; and

a light chain variable region comprising amino acid residues 23-34, 50-61 and 94-106 of SEQ ID NO:7;

d) a heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-114 of SEQ ID NO:40; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 94-106 of SEQ ID NO:9;

e) a heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-114 of SEQ ID NO:42; and

a light chain variable region comprising amino acid residues 23-34, 50-61 and 94-106 of SEQ ID NO:11;

f) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 98-107 of SEQ ID NO:44; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:13;

g) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:46 or 153; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO15 ;

h) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:48; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:17 ;

i) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 101-109 of SEQ ID NO:50; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:19;

j) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 98-107 of SEQ ID NO: 52; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 98-107 of SEQ ID NO:21;

k) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:54; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:23;

l) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:56; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:25; and

m) a heavy chain variable region comprising amino acid residues 31-37, 52-57 and 100-109 of SEQ ID NO:58; and

a light chain variable region comprising amino acid residues 24-34, 500-56 and 89-97 of SEQ ID NO:27.

5. An isolated antigen-binding protein of claim 1 that comprises at least one heavy chain variable region and at least one light chain variable region.

6. An isolated antigen-binding protein of claim 1 that comprises at least two heavy chain variable regions and at least two light chain variable regions.

7. An isolated antigen binding protein that binds IL-23 selected from the group consisting of

a) a heavy chain variable region of SEQ ID NO:140 and a light chain variable region of SEQ ID NO: 30;

b) a heavy chain variable region of SEQ ID NO:141 and a light chain variable region of SEQ ID NO:61;

c) a heavy chain variable region of SEQ ID NO:142 and a light chain variable region of SEQ ID NO:4; and

d) a heavy chain variable region of SEQ ID NO:143 and a light chain variable region of SEQ ID NO:139.

8. An isolated antigen binding protein that binds IL-23 comprising

a heavy chain variable region comprising of an amino acid sequence having at least 90% sequence identity to SEQ ID NO:31, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56 and 58; and

a light chain variable region comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO: 1, 4, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 and 27.

9. An isolated antigen binding protein of claim 8,

a heavy chain variable region comprising of an amino acid sequence having at least 95% sequence identity to SEQ ID NO:31, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56 and 58; and

a light chain variable region comprising an amino acid sequence having at least 95% sequence identity to SEQ ID NO: 1, 4, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 and 27.

10. An isolated antigen binding protein of claim 8, comprising

a heavy chain variable region comprising of an amino acid sequence having at least 97% sequence identity to SEQ ID NO:31, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56 and 58; and

a light chain variable region comprising an amino acid sequence having at least 97% sequence identity to SEQ ID NO: 1, 4, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 and 27.

11. An isolated antigen binding protein of claim 8, comprising

a heavy chain variable region comprising of an amino acid sequence having at least 98% sequence identity to SEQ ID NO:31, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56 and 58; and

a light chain variable region comprising an amino acid sequence having at least 98% sequence identity to SEQ ID NO: 1, 4, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25 and 27.

12. An isolated antigen binding protein of claim 8, comprising

a heavy chain variable region selected from the group consisting of SEQ ID NO: 44, 46, 48, 50, 52, 54, 56, 58 and 153, and

a light chain variable region selected from the group consisting of SEQ ID NO:13, 15, 17, 19, 21, 23, 25, and 27.

13. An isolated antigen binding protein of claim 8, comprising

a heavy chain variable region selected from the group consisting of SEQ ID NO: 31, 34, 36, 38, 40 and 42, and

a light chain variable region selected from the group consisting of SEQ ID NO: 1, 4, 7, 9 and 11.

14. An isolated antigen binding protein that binds IL-23 comprising a heavy chain variable region and a light chain variable region selected from the group consisting of:

a) a heavy chain variable region of SEQ ID NO:31 and a light chain variable region of SEQ ID NO:1;

b) a heavy chain variable region of SEQ ID NO:34 or 36 and a light chain variable region of SEQ ID NO:4;

c) a heavy chain variable region of SEQ ID NO:38 and a light chain variable region of SEQ ID NO: 7;

d) a heavy chain variable region of SEQ ID NO:40 and a light chain variable region of SEQ ID NO:9;

e) a heavy chain variable region of SEQ ID NO:42 and a light chain variable region of SEQ ID NO: 11;

f) a heavy chain variable region of SEQ ID NO:44 and a light chain variable region of SEQ ID NO:13;

g) a heavy chain variable region of SEQ ID NO:46 or 153 and a light chain variable region of SEQ ID NO:15;

h) a heavy chain variable region of SEQ ID NO:48 and a light chain variable region of SEQ ID NO:17;

i) a heavy chain variable region of SEQ ID NO:50 and a light chain variable region of SEQ ID NO: 19;

j) a heavy chain variable region of SEQ ID NO:52 and a light chain variable region of SEQ ID NO:21;

k) a heavy chain variable region of SEQ ID NO:54 and a light chain variable region of SEQ ID NO:23;

l) a heavy chain variable region of SEQ ID NO:56 and a light chain variable region of SEQ ID NO:25; and

m) a heavy chain variable region of SEQ ID NO:58 and a light chain variable region of SEQ ID NO:27.

15. An isolated antigen binding protein of claim 1, 4, 7, 8 or 14, wherein said antigen binding protein is an antibody.

16. An isolated antigen binding protein of claim 15, wherein said antibody is a monoclonal antibody, a recombinant antibody, a human antibody, a humanized antibody, a chimeric antibody, a multispecific antibody, or an antibody fragment thereof.

17. An isolated antigen binding protein of claim 16, wherein said antibody fragment is a Fab fragment, a Fab' fragment, a $F(ab')_2$ fragment, a Fv fragment, a diabody, or a single chain antibody molecule.

18. An isolated antigen binding protein of claim 16, wherein said antigen binding protein is a human antibody.

19. An isolated antigen binding protein of claim 16, wherein said antigen binding protein is a monoclonal antibody.

20. An isolated antigen binding protein of claim 15, wherein said antigen binding protein is of the IgG1-, IgG2- IgG3- or IgG4-type.

21. An isolated antigen binding protein of claim 20, wherein said antigen binding protein is of the IgG1- or IgG2-type.

22. An isolated nucleic acid molecule encoding an antigen binding protein of claim 1, 4, 7, 8 or 14.

23. An isolated nucleic acid molecule of claim 22, wherein at least one heavy chain variable region is encoded by an isolated nucleic acid molecule selected from the group consisting of SEQ ID NOs:32, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59 and 152 and at least one light chain variable region is encoded by an isolated nucleic acid molecule selected from the group consisting of SEQ ID NOs:2, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, and 28.

24. A nucleic acid molecule according to claim 23, wherein said nucleic acid molecule is operably linked to a control sequence.

25. A vector comprising a nucleic acid molecule according to claim 22.

26. A host cell comprising the nucleic acid molecule according to claim 22.

27. A host cell comprising the vector according to claim 25.

28. Use of an isolated polynucleotide as a hybridization probe, PCR primer or sequencing primer that is a fragment of the nucleic acid molecule of claim 23 or its complement.

29. A method of making the antigen binding protein of claim 1, 4, 7, 8 or 14 comprising the step of preparing said antigen binding protein from a host cell that secretes said antigen binding protein.

30. An isolated antigen binding protein of claim 1, 4, 7, 8 or 14 wherein said antigen binding protein has at least one property selected from the group consisting of:

a) reducing human IL-23 activity;

b) reducing production of a proinflammatory cytokine;

c) binding to human IL-23 with a K_D of $\leq 5x10^{-8}$ M;

d) having a K_{off} rate of $\leq 5x10^{-6}$ 1/s; and

e) having an IC_{50} of $\leq$ 400 pM.

31. A pharmaceutical composition comprising at least one antigen binding protein of claim 1, 4, 7, 8, 14 or 30 and pharmaceutically acceptable excipient.

32. A pharmaceutical composition of claim 31, further comprises a labeling group or an effector group.

33. A pharmaceutical composition of claim 32, wherein said labeling group is selected from the group consisting of isotopic labels, magnetic labels, redox active moieties, optical dyes, biotinylated groups and predetermined polypeptide epitopes recognized by a secondary reporter.

34. A pharmaceutical composition of claim 32, wherein said effector group is selected from the group consisting of a radioisotope, radionuclide, a toxin, a therapeutic group and a chemotherapeutic group.

35. A pharmaceutical composition of claim 32, wherein said antigen binding protein is coupled to a labeling group.

36. Use of at least one isolated antigen binding protein of claim 1, 4, 7, 8 or 14 in the manufacture of a medicament for treating or preventing a condition associated with IL-23 in a patient.

37. The use of claim 36, wherein the condition is selected from the group consisting of an inflammatory disorder, a rheumatic disorder, an autoimmune disorder, an oncological disorder and a gastrointestinal disorder.

38. The use of claim 37, wherein the condition is selected from the group consisting of multiple sclerosis, rheumatoid arthritis, cancer, psoriasis, inflammatory bowel disease, Crohn's disease, ulcerative colitis, systemic lupus erythematosus, psoriatic arthritis, autoimmune myocarditis; type 1 diabetes and ankylosing spondylitis.

39. The use of claim 36, wherein the isolated antigen-binding protein is to be administered alone or as a combination therapy.

40. Use of at least one antigen binding protein of claim 1, 4, 7, 8 or 14 in the manufacture of a medicament for reducing IL-23 activity in a patient.

41. The use of claim 40, wherein said IL-23 activity is inducing production of a proinflammatory cytokine.

WHAT IS CLAIMED IS:

1. An isolated antigen binding protein that binds IL-23 selected from the group consisting of

a) an antigen binding protein comprising CDRH1 of SEQ ID NO:129, CDRH2 of SEQ ID NO:132, CDRH3 of SEQ ID NO:136, and CDRL1 of SEQ ID NO:123, CDRL2 of SEQ ID NO:81, and CDRL3 of SEQ ID NO: 76;

b) an antigen binding protein comprising CDRH1 of SEQ ID NO:131, CDRH2 of SEQ ID NO: 134, CDRH3 of SEQ ID NO:137 and CDRL1 of SEQ ID NO:124, CDRL2 of SEQ ID NO126 and CDRL3 of SEQ ID NO:128;

c) a) an antigen binding protein comprising CDRH1 of SEQ ID NO:130, CDRH2 of SEQ ID NO:133, CDRH3 of SEQ ID NO:99 and CDRL1 of SEQ ID NO:68, CDRL2 of SEQ ID NO:69, and CDRL3 of SEQ ID NO:67; and

d) an antigen binding protein comprising CDRH1 SEQ ID NO:91, CDRH2 SEQ ID NO: 135, CDRH3 SEQ ID NO:138 and CDRL1 SEQ ID NO:125, CDRL2 SEQ ID NO:127, and CDRL3 SEQ ID NO:64.

2. An isolated antigen binding protein comprising:

a CDRH1 selected from the group consisting of SEQ ID NO: 91, 94, 97, 100, and 103;

a CDRH2 selected from the group consisting of SEQ ID NO:92, 95, 98, 101, 104, 107, and 110;

a CDRH3 selected from the group consisting of SEQ ID NO: 93, 96, 99, 102, and 105;

a CDRL1 selected from the group consisting of SEQ ID NO: 62, 65, 68, 71, and 74;

a CDRL2 selected from the group consisting of SEQ ID NO:63, 66, 69, 72, 75, and 78; and

a CDRL3 selected from the group consisting of SEQ ID NO:64, 67, 70 and 73.

3. An isolated antigen binding protein comprising:

a CDRH1 selected from the group consisting of SEQ ID NO: 91, 106, 109, 112, and 115;

a CDRH2 selected from the group consisting of SEQ ID NO: 113, 116, 118, 120, 121, and 122;

a CDRH3 selected from the group consisting of SEQ ID NO: 108, 111, 114, 117, and 119;

a CDRL1 selected from the group consisting of SEQ ID NO: 77, 80, 83, 85, 86, 87, 88, 89 and 90;

a CDRL2 is SEQ ID NO: 81; and

a CDRL3 selected from the group consisting of SEQ ID NO: 76, 79, 82 and 84.

4. An isolated antigen binding protein that binds IL-23 comprising at least one heavy chain variable region and at least one light chain variable region, selected from the group consisting of:

a) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 99-113 of SEQ ID NO:31; and

a light chain variable region comprising amino acid residues 23-36, 52-58 and 91-101 of SEQ ID NO:1;

b) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 99-110 of SEQ ID NO:34 and heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-110 of SEQ ID NO:36; and

a light chain variable region comprising amino acid residues 23-36, 52-62 and 97-105 of SEQ ID NO:4 ;

c) a heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-114 of SEQ ID NO:38; and

a light chain variable region comprising amino acid residues 23-34, 50-61 and 94-106 of SEQ ID NO:7;

d) a heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-114 of SEQ ID NO:40; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 94-106 of SEQ ID NO:9;

e) a heavy chain variable region comprising amino acid residues 31-35, 50-66 and 99-114 of SEQ ID NO:42; and

a light chain variable region comprising amino acid residues 23-34, 50-61 and 94-106 of SEQ ID NO:11;

f) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 98-107 of SEQ ID NO:44; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:13;

g) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:46 or 153; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO15 ;

h) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:48; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:17 ;

i) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 101-109 of SEQ ID NO:50; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:19;

j) a heavy chain variable region comprising amino acid residues 31-35, 50-65 and 98-107 of SEQ ID NO: 52; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 98-107 of SEQ ID NO:21;

k) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:54; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:23;

l) a heavy chain variable region comprising amino acid residues 31-37, 52-67 and 100-109 of SEQ ID NO:56; and

a light chain variable region comprising amino acid residues 24-34, 50-56 and 89-97 of SEQ ID NO:25; and

m) a heavy chain variable region comprising amino acid residues 31-37, 52-57 and 100-109 of SEQ ID NO:58; and

a light chain variable region comprising amino acid residues 24-34, 500-56 and 89-97 of SEQ ID NO:27.

5. An isolated antigen-binding protein of claim 1 that comprises at least one heavy chain variable region and at least one light chain variable region.

6. An isolated antigen-binding protein of claim 1 that comprises at least two heavy chain variable regions and at least two light chain variable regions.

7. An isolated antigen binding protein that binds IL-23 selected from the group consisting of

a) a heavy chain variable region of SEQ ID NO:140 and a light chain variable region of SEQ ID NO: 30;

b) a heavy chain variable region of SEQ ID NO:141 and a light chain variable region of SEQ ID NO:61;

c) a heavy chain variable region of SEQ ID NO:142 and a light chain variable region of SEQ ID NO:4; and

d) a heavy chain variable region of SEQ ID NO:143 and a light chain variable region of SEQ ID NO:139.

8. An isolated antigen binding protein that binds IL-23 comprising a heavy chain variable region and a light chain variable region selected from the group consisting of:

a) a heavy chain variable region of SEQ ID NO:31 and a light chain variable region of SEQ ID NO:1;

b) a heavy chain variable region of SEQ ID NO:34 or 36 and a light chain variable region of SEQ ID NO:4;

c) a heavy chain variable region of SEQ ID NO:38 and a light chain variable region of SEQ ID NO: 7;

d) a heavy chain variable region of SEQ ID NO:40 and a light chain variable region of SEQ ID NO:9;

e) a heavy chain variable region of SEQ ID NO:42 and a light chain variable region of SEQ ID NO: 11;

f) a heavy chain variable region of SEQ ID NO:44 and a light chain variable region of SEQ ID NO:13;

g) a heavy chain variable region of SEQ ID NO:46 or 153 and a light chain variable region of SEQ ID NO:15;

h) a heavy chain variable region of SEQ ID NO:48 and a light chain variable region of SEQ ID NO:17;

i) a heavy chain variable region of SEQ ID NO:50 and a light chain variable region of SEQ ID NO: 19;

j) a heavy chain variable region of SEQ ID NO:52 and a light chain variable region of SEQ ID NO:21;

k) a heavy chain variable region of SEQ ID NO:54 and a light chain variable region of SEQ ID NO:23;

l) a heavy chain variable region of SEQ ID NO:56 and a light chain variable region of SEQ ID NO:25; and

m) a heavy chain variable region of SEQ ID NO:58 and a light chain variable region of SEQ ID NO:27.

9. An isolated antigen binding protein of claim 1-4, 7 or 8, wherein said antigen binding protein is an antibody.

10. An isolated antigen binding protein of claim 9, wherein said antibody is a monoclonal antibody, a recombinant antibody, a human antibody, a humanized antibody, a chimeric antibody, a multispecific antibody, or an antibody fragment thereof.

11. An isolated antigen binding protein of claim 10, wherein said antibody fragment is a Fab fragment, a Fab' fragment, a $F(ab')_2$ fragment, a Fv fragment, a diabody, or a single chain antibody molecule.

12. An isolated antigen binding protein of claim 10, wherein said antigen binding protein is a human antibody.

13. An isolated antigen binding protein of claim 10, wherein said antigen binding protein is a monoclonal antibody.

14. An isolated antigen binding protein of claim 9, wherein said antigen binding protein is of the IgG1-, IgG2- IgG3- or IgG4-type.

15. An isolated antigen binding protein of claim 14, wherein said antigen binding protein is of the IgG1- or IgG2-type.

16. An isolated nucleic acid molecule encoding an antigen binding protein of claim 1-4, 7 or 8.

17. An isolated nucleic acid molecule of claim 16, wherein at least one heavy chain variable region is encoded by an isolated nucleic acid molecule selected from the group consisting of SEQ ID NOs:32, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59 and 152 and at least one light chain variable region is encoded by an isolated nucleic acid molecule selected from the group consisting of SEQ ID NOs:2, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, and 28.

18. A nucleic acid molecule according to claim 17, wherein said nucleic acid molecule is operably linked to a control sequence.

19. A vector comprising a nucleic acid molecule according to claim 16.

20. A host cell comprising the nucleic acid molecule according to claim 16.

21. A host cell comprising the vector according to claim 19.

22. Use of an isolated polynucleotide as a hybridization probe, PCR primer or sequencing primer that is a fragment of the nucleic acid molecule of claim 17 or its complement.

23. A method of making the antigen binding protein of claim 1-4, 7 or 8 comprising the step of preparing said antigen binding protein from a host cell that secretes said antigen binding protein.

24. An isolated antigen binding protein of claim 1-4, 7 or 8 wherein said antigen binding protein has at least one property selected from the group consisting of:

a) reducing human IL-23 activity;

b) reducing production of a proinflammatory cytokine;

c) binding to human IL-23 with a K_D of $\leq 5x10^{-8}$ M;

d) having a K_{off} rate of $\leq 5x10^{-6}$ 1/s; and

e) having an IC_{50} of $\leq$ 400 pM.

25. A pharmaceutical composition comprising at least one antigen binding protein of claim 1-4, 7, 8 or 24 and pharmaceutically acceptable excipient.

26. A pharmaceutical composition of claim 25, further comprises a labeling group or an effector group.

27. A pharmaceutical composition of claim 26, wherein said labeling group is selected from the group consisting of isotopic labels, magnetic labels, redox active moieties, optical dyes, biotinylated groups and predetermined polypeptide epitopes recognized by a secondary reporter.

28. A pharmaceutical composition of claim 26, wherein said effector group is selected from the group consisting of a radioisotope, radionuclide, a toxin, a therapeutic group and a chemotherapeutic group.

29. A pharmaceutical composition of claim 26, wherein said antigen binding protein is coupled to a labeling group.

30. Use of at least one isolated antigen binding protein of claim 1-4, 7 or 8 in the manufacture of a medicament for treating or preventing a condition associated with IL-23 in a patient.

31. The use of claim 30, wherein the condition is selected from the group consisting of an inflammatory disorder, a rheumatic disorder, an autoimmune disorder, an oncological disorder and a gastrointestinal disorder.

32. The use of claim 31, wherein the condition is selected from the group consisting of multiple sclerosis, rheumatoid arthritis, cancer, psoriasis, inflammatory bowel disease, Crohn's disease, ulcerative colitis, systemic lupus erythematosus, psoriatic arthritis, autoimmune myocarditis; type 1 diabetes and ankylosing spondylitis.

33. The use of claim 30, wherein the isolated antigen-binding protein is to be administered alone or as a combination therapy.

34. Use of at least one antigen binding protein of claim 1-4, 7 or 8 in the manufacture of a medicament for reducing IL-23 activity in a patient.

35. The use of claim 34, wherein said IL-23 activity is inducing production of a proinflammatory cytokine.