Claims

1. A binding molecule that specifically binds IL-18, wherein the binding molecule does not bind the IL-18/IL-18 binding protein (IL-18 BP) complex and wherein the binding molecule is not IL-18BP.
2. The binding molecule according to claim 1, wherein the binding molecule binds to an IL-18 epitope on IL-18 as defined with reference to SEQ ID NO:1, wherein the epitope comprises amino acids Arg140 and Glu152.
3. The binding molecule according to claim 2, wherein the epitope further comprises any one or more of amino acids Gln92, Pro93, Gly95, Pro143, Glu157 or Glu177.
4. The binding molecule according to any one of claims 2 or 3, wherein the epitope further comprises any one or more of amino acids Lys89, Arg94, Met96, Phe138, Ser141, Gly144, His145, Asp146, Gln150 or Leu180.
5. The binding molecule according to anyone of the preceding claims, wherein the binding molecule does not compete with IL-18BP for binding IL-18 when IL-18BP is bound to IL-18.
6. The binding molecule according to anyone of the preceding claims, wherein the binding molecule is selected from: an isolated antibody, a fragment of an isolated antibody, a single variable domain antibody, a bi- or multi-specific antibody, a multivalent antibody, a dual variable domain antibody, an immuno-conjugate, a fibronectin molecule, an adnectin, an DARPin, an avimer, an affibody, an anticalin, an affilin, a protein epitope mimetic or combinations thereof.
7. The binding molecule according to anyone of the preceding claims, wherein IL-18 comprises from amino acid 37 to amino acid 193 of SEQ ID NO:1 or SEQ ID NO:2.
8. The binding molecule according to any one of the preceding claims, wherein the binding molecule inhibits IL-18-dependent interferon gamma (INF-γ) production.
9. The binding molecule according to any one of the preceding claims, wherein the binding molecule binds IL-18 with a K_D of 100pM or less.
10. The binding molecule according to any one of claims 1 to 9, wherein the binding molecule is an isolated fully human, humanized or chimeric antibody or a fragment thereof.
11. The binding molecule according to claim 10, wherein the binding molecule is an isolated fully human antibody.

12. The binding molecule according to claim 10, wherein the binding molecule is an antibody fragment or a single variable domain antibody.
13. The binding molecule according to claim 12, wherein the binding molecule is a Fab, a Fab', a $F(ab')_2$, a scFv, a dAb or a V_{HH}.
14. The binding molecule according to claim 1, wherein the binding molecule is an isolated bispecific antibody or fragment thereof comprising a first specificity to IL-18 and a second specificity to another polypeptide, e.g. IL-12 or IL-1β.
15. The binding molecule according to claim 1, wherein the binding molecule is an isolated antibody comprising a mutated or chemically modified amino acid Fc region, wherein the mutated or chemically modified amino acid Fc region prevents or decreases ADCC activity and/or increase half-life when compared with a wild type Fc region.
16. The isolated antibody according to claim 15, wherein the mutated or chemically modified amino acid Fc region is a silent IgG1 Fc region.
17. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or a fragment comprises:
    i. a heavy chain variable region H-CDR1 comprising SEQ ID NO: 3 or conservative variants thereof and
    ii. a heavy chain variable region H-CDR2 comprising SEQ ID NO: 4 or SEQ ID NO: 9 or SEQ ID NO: 10 or SEQ ID NO: 11 or SEQ ID NO: 12 or SEQ ID NO: 13 or conservative variants thereof and
    iii. a heavy chain variable region H-CDR3 comprising SEQ ID NO: 5 or conservative variants thereof and
    iv. a light chain variable region L-CDR1 comprising SEQ ID NO: 6 or conservative variants thereof and
    v. a light chain variable region L-CDR2 comprising SEQ ID NO: 7 or conservative variants thereof and
    vi. a light chain variable region L-CDR3 comprising SEQ ID NO: 8 or conservative variants thereof.
18. The isolated antibody or fragment thereof according to claim 17, wherein the antibody or fragment thereof comprises a heavy chain variable region H-CDR 2 comprising SEQ ID NO: 9.

19. The isolated antibody or fragment thereof according to claim 17, wherein the antibody or fragment thereof comprises a heavy chain variable region H-CDR 2 comprising SEQ ID NO: 13.
20. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or fragment comprises a light chain variable domain comprising SEQ ID NO: 16 or SEQ ID NO: 20 or conservative variants thereof.
21. The isolated antibody or fragment thereof according to claim 20, wherein the isolated antibody or fragment thereof comprises:
    i. a heavy chain variable domain comprising SEQ ID NO: 14 or SEQ ID NO: 22 or SEQ ID NO: 25 or SEQ ID NO: 28 or SEQ ID NO: 31 or SEQ ID NO: 34 or conservative variants thereof and a light chain variable domain comprising SEQ ID NO: 16 or conservative variants thereof or
    ii. a heavy chain variable domain comprising SEQ ID NO: 18 or SEQ ID NO: 37 or SEQ ID NO: 40 or conservative variants thereof and a light chain variable domain comprising SEQ ID NO: 20 or conservative variants thereof.
22. The isolated antibody or fragment thereof according to claim 21, wherein the isolated antibody or fragment thereof comprises a heavy chain variable domain comprising SEQ ID NO: 14 or conservative variants thereof and a light chain variable domain comprising SEQ ID NO: 16 or conservative variants thereof.
23. The isolated antibody or fragment thereof according to claim 22, wherein amino acid lysine (Lys; K) in position 30 with reference to SEQ ID NO:14 is replaced by an amino acid selected from asparagine (Asn; N) or serine (Ser; S) or threonine (Thr; T) or alanine (Ala; A) or glutamate (Glu; E) or histidine (His; H) or leucine (Leu ; L) or glutamine (Gln; Q) or arginine (Arg; R) or valine (Val; V) or tyrosine (Tyr; Y) or isoleucine (Ile; I).
24. The isolated antibody or fragment thereof according to claim 21, wherein the isolated antibody or fragment thereof comprises a heavy chain variable domain comprising SEQ ID NO: 18 or conservative variants thereof and a light chain variable domain comprising SEQ ID NO: 20 or conservative variants thereof.
25. The isolated antibody according to claim 10, wherein the isolated antibody comprises:
    i. a heavy chain comprising SEQ ID NO: 43 or SEQ ID NO: 47 or SEQ ID NO: 50 or SEQ ID NO: 56 or conservative variants thereof and a light chain comprising of SEQ ID NO: 45 or conservative variants thereof or

ii. a heavy chain comprising SEQ ID NO: 53 or SEQ ID NO: 100 or SEQ ID NO: 158 or conservative variants thereof and a light chain comprising SEQ ID NO: 160 or conservative variants thereof.

26. The isolated antibody according to claim 25, wherein the isolated antibody comprises:
    i. a heavy chain comprising SEQ ID NO: 43 or conservative variants thereof and a light chain comprising of SEQ ID NO: 45 or conservative variants thereof or
    ii. a heavy chain comprising SEQ ID NO: 158 or conservative variants thereof and a light chain comprising SEQ ID NO: 160 or conservative variants thereof.
27. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or fragment thereof comprises:
    i. a heavy chain variable region H-CDR1 comprising SEQ ID NO: 74 or conservative variants thereof and
    ii. a heavy chain variable region H-CDR2 comprising SEQ ID NO: 75 or SEQ ID NO: 76 or SEQ ID NO: 77 or SEQ ID NO: 78 or conservative variants thereof and
    iii. a heavy chain variable region H-CDR3 comprising SEQ ID NO: 79 or conservative variants thereof and
    iv. a light chain variable region L-CDR1 comprising SEQ ID NO: 80 or conservative variants thereof and
    v. a light chain variable region L-CDR2 comprising SEQ ID NO: 81 or conservative variants thereof and
    vi. a light chain variable region L-CDR3 comprising SEQ ID NO: 82 or conservative variants thereof.
28. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or fragment thereof comprises a light chain variable domain comprising SEQ ID NO: 85 or conservative variants thereof and a heavy chain variable domain comprising SEQ ID NO: 83 or SEQ ID NO: 87 or SEQ ID NO: 90 or SEQ ID NO: 93 or conservative variants thereof.
29. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody comprises a heavy chain comprising SEQ ID NO: 96 or SEQ ID NO: 103 or conservative variants thereof and a light chain comprising SEQ ID NO: 98 or conservative variants thereof.

30. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or fragment thereof comprises:
    i. a heavy chain variable region H-CDR1 comprising SEQ ID NO: 106 conservative variants thereof and
    ii. a heavy chain variable region H-CDR2 comprising SEQ ID NO: 107 or SEQ ID NO: 122 or conservative variants thereof and
    iii. a heavy chain variable region H-CDR3 comprising SEQ ID NO: 108 or conservative variants thereof and
    iv. a light chain variable region L-CDR1 comprising SEQ ID NO: 109 or conservative variants thereof and
    v. a light chain variable region L-CDR2 comprising SEQ ID NO: 110 or conservative variants thereof and
    vi. a light chain variable region L-CDR3 comprising SEQ ID NO: 111 or SEQ ID NO: 126 or conservative variants thereof.
31. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or fragment thereof comprises:
    i. a heavy chain variable region H-CDR1 comprising SEQ ID NO: 106 conservative variants thereof and
    ii. a heavy chain variable region H-CDR2 comprising SEQ ID NO: 107 or conservative variants thereof and
    iii. a heavy chain variable region H-CDR3 comprising SEQ ID NO: 108 or conservative variants thereof and
    iv. a light chain variable region L-CDR1 comprising SEQ ID NO: 109 or conservative variants thereof and
    v. a light chain variable region L-CDR2 comprising SEQ ID NO: 110 or conservative variants thereof and
    vi. a light chain variable region L-CDR3 comprising SEQ ID NO: 111 or conservative variants thereof.
32. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or fragment thereof comprise

i. a heavy chain variable domain comprising SEQ ID NO: 112 or conservative variants thereof and a light chain variable domain comprising SEQ ID NO: 114 or conservative variants thereof or

ii. a heavy chain variable domain comprising SEQ ID NO: 138 or conservative variants thereof and a light chain variable domain comprising SEQ ID NO: 140 or conservative variants thereof.

33. The isolated antibody according to claim 10, wherein the isolated antibody or fragment thereof comprises

i. a heavy chain comprising SEQ ID NO: 116 or conservative variants thereof and a light chain comprising SEQ ID NO: 118 or conservative variants thereof or

ii. a heavy chain comprising SEQ ID NO: 142 or conservative variants thereof and a light chain comprising SEQ ID NO: 144 or conservative variants thereof.

34. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or a fragment thereof comprises

i. a heavy chain variable region H-CDR1 comprising SEQ ID NO: 120 or conservative variants thereof and

ii. a heavy chain variable region H-CDR2 comprising SEQ ID NO: 121 or conservative variants thereof and

iii. a heavy chain variable region H-CDR3 comprising SEQ ID NO: 123 or conservative variants thereof and

iv. a light chain variable region L-CDR1 comprising SEQ ID NO: 124 or conservative variants thereof and

v. a light chain variable region L-CDR2 comprising SEQ ID NO: 125 or conservative variants thereof and

vi. a light chain variable region L-CDR3 comprising SEQ ID NO: 127 or SEQ ID NO: 128 or SEQ ID NO: 129 or conservative variants thereof.

35. The isolated antibody or fragment thereof according to claim 10, wherein the isolated antibody or a fragment thereof comprises a heavy chain variable domain comprising SEQ ID NO: 130 or conservative variants thereof and a light chain variable domain comprising SEQ ID NO: 132 or SEQ ID NO: 147 or SEQ ID NO: 153 or conservative variants thereof.

36. The isolated antibody according to claim 10, wherein the isolated antibody comprises a heavy chain comprising SEQ ID NO: 134 or conservative variants thereof and a light chain comprising of SEQ ID NO: 136 or SEQ ID NO: 150 or SEQ ID NO: 156 or conservative variants thereof.
37. An isolated polynucleotide encoding the binding molecule of any one of claims 1 to 36.
38. The isolated polynucleotide according to claim 37 encoding a heavy chain variable domain, wherein the polynucleotide
    i. is at least 90% identical to SEQ ID NO: 15 or SEQ ID NO: 19 or SEQ ID NO: 23 or SEQ ID NO: 26 or SEQ ID NO: 29 or SEQ ID NO: 32 or SEQ ID NO: 35 or SEQ ID NO: 38 or SEQ ID NO: 41 or SEQ ID NO: 84 or SEQ ID NO: 88 or SEQ ID NO: 91 or SEQ ID NO: 94 or SEQ ID NO: 113 or SEQ ID NO: 131 or SEQ ID NO: 139 or SEQ ID NO: 146 or SEQ ID NO: 152; or
    ii. comprises SEQ ID NO: 15 or SEQ ID NO: 19 or SEQ ID NO: 23 or SEQ ID NO: 26 or SEQ ID NO: 29 or SEQ ID NO: 32 or SEQ ID NO: 35 or SEQ ID NO: 38 or SEQ ID NO: 41 or SEQ ID NO: 84 or SEQ ID NO: 88 or SEQ ID NO: 91 or SEQ ID NO: 94 or SEQ ID NO: 113 or SEQ ID NO: 131 or SEQ ID NO: 139 or SEQ ID NO: 146 or SEQ ID NO: 152; or
    iii. consists essentially of SEQ ID NO: 15 or SEQ ID NO: 19 or SEQ ID NO: 23 or SEQ ID NO: 26 or SEQ ID NO: 29 or SEQ ID NO: 32 or SEQ ID NO: 35 or SEQ ID NO: 38 or SEQ ID NO: 41 or SEQ ID NO: 84 or SEQ ID NO: 88 or SEQ ID NO: 91 or SEQ ID NO: 94 or SEQ ID NO: 113 or SEQ ID NO: 131 or SEQ ID NO: 139 or SEQ ID NO: 146 or SEQ ID NO: 152.
39. The isolated polynucleotide according to claim 37 encoding a light chain variable domain, wherein the polynucleotide
    i. is at least 90% identical to SEQ ID NO: 17 or SEQ ID NO: 21 or SEQ ID NO: 24 or SEQ ID NO: 27 or SEQ ID NO: 30 or SEQ ID NO: 33 or SEQ ID NO: 36 or SEQ ID NO: 39 or SEQ ID NO: 42 or SEQ ID NO: 86 or SEQ ID NO: 89 or SEQ ID NO: 92 or SEQ ID NO: 95 or SEQ ID NO: 115 or SEQ ID NO: 133 or SEQ ID NO: 141 or SEQ ID NO: 148 or SEQ ID NO: 154; or
    ii. comprises SEQ ID NO: 17 or SEQ ID NO: 21 or SEQ ID NO: 24 or SEQ ID NO: 27 or SEQ ID NO: 30 or SEQ ID NO: 33 or SEQ ID NO: 36 or SEQ ID NO: 39 or SEQ ID NO: 42 or SEQ ID NO: 86 or SEQ ID NO: 89 or SEQ ID NO: 92 or SEQ

ID NO: 95 or SEQ ID NO: 115 or SEQ ID NO: 133 or SEQ ID NO: 141 or SEQ ID NO: 148 or SEQ ID NO: 154; or

iii. consists essentially of SEQ ID NO: 17 or SEQ ID NO: 21 or SEQ ID NO: 24 or SEQ ID NO: 27 or SEQ ID NO: 30 or SEQ ID NO: 33 or SEQ ID NO: 36 or SEQ ID NO: 39 or SEQ ID NO: 42 or SEQ ID NO: 86 or SEQ ID NO: 89 or SEQ ID NO: 92 or SEQ ID NO: 95 or SEQ ID NO: 115 or SEQ ID NO: 133 or SEQ ID NO: 141 or SEQ ID NO: 148 or SEQ ID NO: 154.

40. The isolated polynucleotide according to claim 37 encoding a heavy chain, wherein the polynucleotide

i. is at least 90% identical to SEQ ID NO: 44 or SEQ ID NO: 48 or SEQ ID NO: 51 or SEQ ID NO: 54 or SEQ ID NO: 57 or SEQ ID NO: 97 or SEQ ID NO: 101 or SEQ ID NO: 104 or SEQ ID NO: 117 or SEQ ID NO: 135 or SEQ ID NO: 143 or SEQ ID NO: 149 or SEQ ID NO: 155 or SEQ ID NO: 159; or

ii. comprises SEQ ID NO: 44 or SEQ ID NO: 48 or SEQ ID NO: 51 or SEQ ID NO: 54 or SEQ ID NO: 57 or SEQ ID NO: 97 or SEQ ID NO: 101 or SEQ ID NO: 104 or SEQ ID NO: 117 or SEQ ID NO: 135 or SEQ ID NO: 143 or SEQ ID NO: 149 or SEQ ID NO: 155 or SEQ ID NO: 159; or

iii. consists essentially of SEQ ID NO: 44 or SEQ ID NO: 48 or SEQ ID NO: 51 or SEQ ID NO: 54 or SEQ ID NO: 57 or SEQ ID NO: 97 or SEQ ID NO: 101 or SEQ ID NO: 104 or SEQ ID NO: 117 or SEQ ID NO: 135 or SEQ ID NO: 143 or SEQ ID NO: 149 or SEQ ID NO: 155 or SEQ ID NO: 159.

41. The isolated polynucleotide according to claim 37 encoding a light chain, wherein the polynucleotide

i. is at least 90% identical to SEQ ID NO: 46 or SEQ ID NO: 49 or SEQ ID NO: 52 or SEQ ID NO: 55 or SEQ ID NO: 58 or SEQ ID NO: 99 or SEQ ID NO: 102 or SEQ ID NO: 105 or SEQ ID NO: 119 or SEQ ID NO: 137 or SEQ ID NO: 145 or SEQ ID NO: 151 or SEQ ID NO: 157 or SEQ ID NO: 161; or

ii. comprises SEQ ID NO: 46 or SEQ ID NO: 49 or SEQ ID NO: 52 or SEQ ID NO: 55 or SEQ ID NO: 58 or SEQ ID NO: 99 or SEQ ID NO: 102 or SEQ ID NO: 105 or SEQ ID NO: 119 or SEQ ID NO: 137 or SEQ ID NO: 145 or SEQ ID NO: 151 or SEQ ID NO: 157 or SEQ ID NO: 161; or

iii. consists essentially of SEQ ID NO: 46 or SEQ ID NO: 49 or SEQ ID NO: 52 or SEQ ID NO: 55 or SEQ ID NO: 58 or SEQ ID NO: 99 or SEQ ID NO: 102 or SEQ ID NO: 105 or SEQ ID NO: 119 or SEQ ID NO: 137 or SEQ ID NO: 145 or SEQ ID NO: 151 or SEQ ID NO: 157 or SEQ ID NO: 161.

42. A cloning or expression vector comprising one or more polynucleotides according to any one of claims 37 to 41.
43. The cloning or expression vector according to claim 42 comprising at least one polynucleotide selected from the group of SEQ ID NO: 44 or SEQ ID NO: 48 or SEQ ID NO: 51 or SEQ ID NO: 54 or SEQ ID NO: 57 or SEQ ID NO: 101 or SEQ ID NO: 159 or SEQ ID NO: 97 or SEQ ID NO: 104 or SEQ ID NO: 117 or SEQ ID NO: 143 or SEQ ID NO: 135 or SEQ ID NO: 149 or SEQ ID NO: 155 or SEQ ID NO: 46 or SEQ ID NO: 49 or SEQ ID NO: 52 or SEQ ID NO: 55 or SEQ ID NO: 58 or SEQ ID NO: 102 or SEQ ID NO: 161 or SEQ ID NO: 99 or SEQ ID NO: 105 or SEQ ID NO: 119 or SEQ ID NO: 145 or SEQ ID NO: 137 or SEQ ID NO: 151 or SEQ ID NO: 157.
44. A host cell comprising one or more cloning or expression vectors according to claims 42 or 43.
45. A stably transformed or transfected host cell comprising one or more polynucleotides according to any one of claims 37 to 41.
46. A method of producing a binding molecule, which method comprises culturing a host cell of any one of claims 44 or 45 under conditions suitable for producing the binding molecule.
47. A pharmaceutical composition comprising the binding molecule or the isolated antibody or fragment thereof according to any one of claims 1 to 36 and a pharmaceutical carrier, wherein the pharmaceutical composition optionally comprises a second therapeutic compound.
48. The pharmaceutical composition of claim 47 in intravenously, inhalable or sub-cutaneously administrable form.
49. The binding molecule according to any one of claims 1 to 36 or the pharmaceutical composition of claims 47 or 48 for use in therapy.
50. The binding molecule according to any one of claims 1 to 36 or the pharmaceutical composition of claims 47 or 48 for use in treating and/or preventing sarcoidosis, in particular pulmonary sarcoidosis, hemophagocytic lymphohistiocytosis (HLH), familial

hemophagocytic lymphohistiocytosis (FHL) and other immunodeficiency syndromes, Giant Cell Arthritis (GCA), chronic obstructive pulmonary disease (COPD), adult onset Still's Disease (AOSD), systemic juvenile idiopathic arthritis (SJIA), severe asthma, Uveitis, Geographic Atrophy, diabetes type 1, diabetes type 2 or atherosclerosis and any combination thereof in a mammalian patient.

51. A method of treating and/or preventing sarcoidosis, in particular pulmonary sarcoidosis, hemophagocytic lymphohistiocytosis (HLH), familial hemophagocytic lymphohistiocytosis (FHL) and other immunodeficiency syndromes, Giant Cell Arthritis (GCA), chronic obstructive pulmonary disease (COPD), adult onset Still's Disease (AOSD), systemic juvenile idiopathic arthritis (SJIA), severe asthma, Uveitis, Geographic Atrophy, diabetes type 1, diabetes type 2 or atherosclerosis and any combination thereof in a mammalian patient which method comprises administrating to the mammalian patient a therapeutically effective amount of a binding molecule according to any one of claims 1 to 36 or the pharmaceutical composition of claims 47 or 48.
52. The use according to any one of claims 49 to 51, wherein the mammalian patient is a human patient.
53. A complex comprising IL-18 and a binding molecule according to any one of claims 1 to 36.
54. The binding molecule or the isolated antibody or fragment thereof according to any one of claims 1 to 36 for use in diagnosis or for use in a diagnostic kit.
55. The binding molecule or the isolated antibody or fragment thereof according to any one of claims 1 to 36 for use in diagnosis or for use in detecting and/or measuring the presence and/or the amount of free IL-18 (i.e. IL-18 not bound to IL-18BP) in a sample.
56. A method for detecting and/or measuring the presence and/or amount of free IL-18 (i.e. IL-18 not bound to IL-18BP) in a sample, wherein the sample is optionally a human sample, wherein the method comprises contacting the sample with the binding molecule or the isolated antibody or a fragment thereof according to any one of claims 1 to 36.
57. The method according to claim 56, wherein the sample is blood, optionally human blood.
58. A diagnostic kit comprising the binding molecule or the isolated antibody or fragment thereof according to any one of claims 1 to 36 and/or the complex according to claim 53, wherein the kit optionally comprises a first control compound.

59. The diagnostic kit according to claim 58 wherein the first control compound is free IL-18 and wherein the kit optionally comprises a second control compound wherein the second control compound is murine antibody 125-2H.
60. A medical or diagnostic device comprising the binding molecule or the isolated antibody or a fragment thereof according to any one of claims 1 to 36 and/or the complex according to claim 52.

The invention claimed is:

1. An isolated antibody or fragment thereof, wherein the isolated antibody or a fragment comprises:
i) a heavy chain variable region H-CDR1 comprising SEQ ID NO: 3 and
ii) a heavy chain variable region H-CDR2 comprising SEQ ID NO: 4 or SEQ ID NO: 9 or SEQ ID NO: 10 or SEQ ID NO: 11 or SEQ ID NO: 12 or SEQ ID NO: 13 and
iii) a heavy chain variable region H-CDR3 comprising SEQ ID NO: 5 and
iv) a light chain variable region L-CDR1 comprising SEQ ID NO: 6 and
v) a light chain variable region L-CDR2 comprising SEQ ID NO: 7 and
vi) a light chain variable region L-CDR3 comprising SEQ ID NO: 8.

2. The isolated antibody or fragment thereof according to claim 1, wherein the binding molecule inhibits IL-18-dependent interferon gamma (INF-γ) production.

3. The isolated antibody or fragment thereof according to claim 1, wherein the binding molecule binds IL-18 with a K_D of 100pM or less.

4. The isolated antibody or fragment thereof according to claim 1, wherein the binding molecule is an isolated fully human, humanized or chimeric antibody or a fragment thereof.

5. The isolated antibody or fragment thereof according to claim 4, wherein the isolated antibody or fragment comprises a light chain variable domain comprising SEQ ID NO: 16 or SEQ ID NO: 20.

6. The isolated antibody or fragment thereof according to claim 5, wherein the isolated antibody or fragment thereof comprises:
i) a heavy chain variable domain comprising SEQ ID NO: 14 or SEQ ID NO: 22 or SEQ ID NO: 25 or SEQ ID NO: 28 or SEQ ID NO: 31 or SEQ ID NO: 34 and a light chain variable domain comprising SEQ ID NO: 16 or

ii) a heavy chain variable domain comprising SEQ ID NO: 18 or SEQ ID NO: 37 or SEQ ID NO: 40 and a light chain variable domain comprising SEQ ID NO: 20.

7. The isolated antibody or fragment thereof according to claim 6, wherein the isolated antibody or fragment thereof comprises a heavy chain variable domain comprising SEQ ID NO: 14 and a light chain variable domain comprising SEQ ID NO: 16.

8. The isolated antibody or fragment thereof according to claim 7, wherein amino acid lysine (Lys; K) in position 30 with reference to SEQ ID NO:14 is replaced by an amino acid selected from asparagine (Asn; N) or serine (Ser; S) or threonine (Thr; T) or alanine (Ala; A) or glutamate (Glu; E) or histidine (His; H) or leucine (Leu; L) or glutamine (Gln; Q) or arginine (Arg; R) or valine (Val; V) or tyrosine (Tyr; Y) or isoleucine (Ile; I).

9. The isolated antibody or fragment thereof according to claim 1, wherein the binding molecule is an isolated fully human antibody.

10. The isolated antibody or fragment thereof according to claim 1, wherein the binding molecule is an antibody fragment.

11. The isolated antibody or fragment thereof according to claim 10, wherein the binding molecule is a Fab, a Fab', a $F(ab')_2$, or a scFv.

12. The isolated antibody or fragment thereof according to claim 1, wherein the binding molecule is an isolated bispecific antibody or fragment thereof comprising a first specificity to IL-18 and a second specificity to another polypeptide.

13. The isolated antibody or fragment thereof according to claim 1, wherein the binding molecule is an isolated antibody comprising a mutated or chemically modified amino acid Fc region, wherein the mutated or chemically modified amino

acid Fc region prevents or decreases antibody dependent cytotoxic (ADCC) activity and/or increase half-life when compared with a wild type Fc region.

14. The isolated antibody according to claim 13, wherein the mutated or chemically modified amino acid Fc region is a silent IgG1 Fc region.

15. A pharmaceutical composition comprising the binding molecule or the isolated antibody or fragment thereof according to claim 4 and a pharmaceutical carrier, wherein the pharmaceutical composition optionally comprises a second therapeutic compound.

16. The pharmaceutical composition of claim 15 in intravenously, inhalable or sub-cutaneously administrable form.

17. A diagnostic kit comprising the binding molecule or the isolated antibody or fragment thereof according to claim 4, wherein the kit optionally comprises a first control compound.

18. The diagnostic kit according to claim 17 wherein the first control compound is free IL-18 and wherein the kit optionally comprises a second control compound wherein the second control compound is murine antibody 125-2H.

19. An isolated antibody or antigen binding fragment thereof that binds to IL-18, comprising:

i) a heavy chain variable region H-CDR1 comprising SEQ ID NO: 3;
ii) a heavy chain variable region H-CDR2 comprising SEQ ID NO: 9;
iii) a heavy chain variable region H-CDR3 comprising SEQ ID NO: 5;
iv) a light chain variable region L-CDR1 comprising SEQ ID NO: 6;
v) a light chain variable region L-CDR2 comprising SEQ ID NO: 7; and
vi) a light chain variable region L-CDR3 comprising SEQ ID NO: 8.

20. The antibody or antigen binding fragment thereof of claim 19, wherein the isolated antibody or fragment thereof comprises a heavy chain variable domain comprising SEQ ID NO: 14 and a light chain variable domain comprising SEQ ID NO: 16.

21. The antibody or antigen binding fragment thereof of claim 19, wherein the isolated antibody or fragment thereof comprises a heavy chain comprising SEQ ID NO: 43 and a light chain variable domain comprising SEQ ID NO: 45.

22. A pharmaceutical composition comprising the isolated antibody or fragment thereof according to claim 19 and a pharmaceutical carrier, wherein the pharmaceutical composition optionally comprises a second therapeutic compound.

23. The pharmaceutical composition of claim 22 in intravenously, inhalable or sub-cutaneously administrable form.

24. A diagnostic kit comprising the binding molecule or the isolated antibody or fragment thereof according to claim 19, wherein the kit optionally comprises a first control compound.

25. The diagnostic kit according to claim 24 wherein the first control compound is free IL-18 and wherein the kit optionally comprises a second control compound wherein the second control compound is murine antibody 125-2H.