Claims:

1. An anti-FcRn antibody or binding fragment thereof comprising a heavy chain or heavy chain fragment having a variable region, wherein said variable region comprises one, two or three CDRs independently selected from SEQ ID NO: 1, SEQ ID NO: 2 and SEQ ID NO: 3.
2. An anti-FcRn antibody or binding fragment thereof according to claim 1, wherein CDR H1 has the sequence given in SEQ ID NO: 1.
3. An anti-FcRn antibody or binding fragment thereof according to claim 1 or 2, wherein CDR H2 has the sequence given in SEQ ID NO: 2.
4. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 3, wherein CDR H3 has the sequence given in SEQ ID NO: 3.
5. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 4, wherein the antibody or binding fragment further comprises a light chain or fragment thereof having a variable region comprising one, two or three CDRs independently selected from SEQ ID NO: 4, SEQ ID NO: 5 and SEQ ID NO: 6.
6. An anti-FcRn antibody or binding fragment thereof according to claim 5, wherein CDR L1 has the sequence given in SEQ ID NO: 4.
7. An anti-FcRn antibody or binding fragment thereof according to claim 5 or 6, wherein CDR L2 has the sequence given in SEQ ID NO: 5.
8. An anti-FcRn antibody or binding fragment thereof according to any one of claims 5 to 7, wherein CDR L3 has the sequence given in SEQ ID NO: 6.
9. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 8, wherein the antibody is humanized.
10. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 9 having a heavy chain comprising the sequence given in SEQ ID NO:29 and a light chain comprising the sequence given in SEQ ID NO:15.
11. An anti-FcRn antibody or binding fragment thereof which binds human FcRn comprising a heavy chain, wherein the variable domain of the heavy chain comprises a sequence having at least 80% identity or similarity to the sequence given in SEQ ID NO:29 and wherein the variable domain of the light chain comprises a sequence having at least 80% identity or similarity to the sequence given in SEQ ID NO:15.
12. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 11, wherein the antibody is a scFv, Fv, Fab or Fab'fragment.
13. An anti-FcRn antibody Fab' fragment according to claim 12 having a heavy chain comprising the sequence given in SEQ ID NO:36 and a light chain comprising the sequence given in SEQ ID NO:22.
14. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 13, wherein the antibody or binding fragment is conjugated to a polymer for example selected from starch, albumin and polyethylene glycol.
15. An anti-FcRn antibody or binding fragment thereof according to claim 14, wherein the polymer is PEG, for example with a molecular weight in the range 5 to 50kDa.

16. An anti-FcRn antibody according to any one of claims 1 to 11, wherein the antibody is a full length antibody.
17. An anti-FcRn antibody according to claim 16 wherein the full length antibody is selected from the group consisting of an IgG1, IgG4 and IgG4P.
18. An anti-FcRn antibody according to claim 16 or claim 17 having a heavy chain comprising the sequence given in SEQ ID NO:72 or SEQ ID NO:87 or SEQ ID NO:43 and a light chain comprising the sequence given in SEQ ID NO:22.
19. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 11 wherein the antibody or binding fragment thereof is a Fab-dsFv having a heavy chain comprising the sequence given in SEQ ID NO:50 and a light chain comprising the sequence given in SEQ ID NO:46 or SEQ ID NO:78.
20. An anti-FcRn antibody or binding fragment thereof having a binding affinity for human FcRn of 100pM or less.
21. An anti-FcRn antibody or binding fragment thereof according to claim 20 wherein the binding affinity for human FcRn is 100pM or less when measured at pH6 and at pH7.4.
22. An anti-FcRn antibody or binding fragment thereof which binds to the same epitope of human FcRn as the antibody of claim 10.
23. An anti-FcRn antibody or binding fragment thereof which binds an epitope of human FcRn which comprises at least one amino acid selected from the group consisting of residues V105, P106, T107, A108 and K109 of SEQ ID NO:94 and at least one residue selected from the group consisting of P100, E115, E116, F117, M118, N119, F120, D121, L122, K123, Q124, G128, G129, D130, W131, P132 and E133 of SEQ ID NO:94.
24. An anti-FcRn antibody or binding fragment thereof which cross-blocks the binding of the antibody of claim 10 to human FcRn or is cross-blocked from binding human FcRn by the antibody of claim 10.
25. An anti-FcRn antibody or binding fragment thereof according to any one of claims 20 to 24 which is humanized or fully human.
26. An anti-FcRn antibody or binding fragment thereof according to any one of claims 22 to 25 which has a binding affinity for human FcRn of 100pM or less.
27. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 26 which binds human FcRn.
28. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 27 which blocks binding of human IgG to human FcRn.
29. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 28 which does not bind β2 microglobulin.

30. An isolated DNA sequence encoding the heavy and/or light chain(s) of an antibody according to any one of claims 1 to 29.
31. A cloning or expression vector comprising one or more DNA sequences according to claim 30.
32. A vector according to claim 31, wherein the vector comprises (i) the sequence given in SEQ ID NO:37 and the sequence given in SEQ ID NO:23 or (ii) the sequence given in SEQ ID NO:80 and the sequence given in SEQ ID NO:79 or (iii) the sequence given in SEQ ID NO:93 and the sequence given in SEQ ID NO:91.
33. A host cell comprising one or more cloning or expression vectors according to claim 31 or claim 32.
34. A process for the production of an antibody having binding specificity for human FcRn, comprising culturing the host cell of claim 33 and isolating the antibody.
35. A pharmaceutical composition comprising an anti-FcRn antibody or binding fragment thereof as defined in any one of claims 1 to 29 in combination with one or more of a pharmaceutically acceptable excipient, diluent or carrier.
36. A pharmaceutical composition according to claim 35, additionally comprising other active ingredients.
37. An antibody or binding fragment thereof as defined one in any one of claims 1 to 29 or a composition as defined in claim 35 or 36 for use in therapy.
38. An antibody or binding fragment thereof as defined in any one of claims 1 to 29 or a composition as defined in claim 35 or 36, for use in the treatment of an autoimmune disease, such as myasthenia gravis, Pemphigus vulgaris, Neuromyelitis optica, Guillain-Barré syndrome, lupus, and thrombotic thrombocytopenic purpura.

Claims:

1. An anti-FcRn antibody or binding fragment thereof comprising a:
   heavy chain or heavy chain fragment having a variable region, wherein said variable region comprises three CDRs wherein CDR H1 has the sequence given in SEQ ID NO: 1, CDR H2 has the sequence given in SEQ ID NO: 2, CDR H3 has the sequence given in SEQ ID NO: 3, and
   a light chain or fragment thereof having a variable region comprising three CDRs wherein CDR L1 has the sequence given in SEQ ID NO: 4 CDR L2 has the sequence given in SEQ ID NO: 5 and CDR L3 has the sequence given in SEQ ID NO: 6.
2. An anti-FcRn antibody or binding fragment thereof according to claim 1, wherein the antibody is humanized.
3. An anti-FcRn antibody or binding fragment thereof according to claim 1 or 2 having a heavy chain comprising the sequence given in SEQ ID NO:29 and a light chain comprising the sequence given in SEQ ID NO:15.
4. An anti-FcRn antibody or binding fragment thereof which binds human FcRn comprising a heavy chain, wherein the variable domain of the heavy chain comprises a sequence having at least 90% identity to the sequence given in SEQ ID NO:29 and wherein the variable domain of the light chain comprises a sequence having at least 90% identity to the sequence given in SEQ ID NO:15 but wherein the antibody or binding fragment thereof has the CDRs of the antibody according to claim 1.
5. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 4, wherein the antibody is a scFv, Fv, Fab or Fab'fragment.
6. An anti-FcRn antibody Fab' fragment according to claim 5 having a heavy chain comprising the sequence given in SEQ ID NO:36 and a light chain comprising the sequence given in SEQ ID NO:22.
7. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 6, wherein the antibody or binding fragment is conjugated to a polymer for example selected from starch, albumin and polyethylene glycol.
8. An anti-FcRn antibody or binding fragment thereof according to claim 7, wherein the polymer is PEG, for example with a molecular weight in the range 5 to 50kDa.
9. An anti-FcRn antibody according to any one of claims 1 to 4, wherein the antibody is a full length antibody.
10. An anti-FcRn antibody according to claim 9 wherein the full length antibody is selected from the group consisting of an IgG1, IgG4 and IgG4P.
11. An anti-FcRn antibody according to claim 9 or claim 10 having a heavy chain comprising the sequence given in SEQ ID NO:72 or SEQ ID NO:87 or SEQ ID NO:43 and a light chain comprising the sequence given in SEQ ID NO:22.
12. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 4 wherein the antibody or binding fragment thereof is a Fab-dsFv having a heavy chain comprising the sequence given in SEQ ID NO:50 and a light chain comprising the sequence given in SEQ ID NO:46 or SEQ ID NO:78.

13. An anti-FcRn antibody or binding fragment thereof which binds to the same epitope of human FcRn as the antibody of claim 3.
14. An anti-FcRn antibody or binding fragment thereof which binds an epitope of human FcRn which comprises at least one amino acid selected from the group consisting of residues V105, P106, T107, A108 and K109 of SEQ ID NO:94 and at least one residue selected from the group consisting of P100, E115, E116, F117, M118, N119, F120, D121, L122, K123, Q124, G128, G129, D130, W131, P132 and E133 of SEQ ID NO:94.
15. An anti-FcRn antibody or binding fragment thereof according to claim 13 or claim 14 which is humanized or fully human.
16. An anti-FcRn antibody or binding fragment thereof according to any one of claims 13 to 15 which has a binding affinity for human FcRn of 100pM or less.
17. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 16 which blocks binding of human IgG to human FcRn.
18. An anti-FcRn antibody or binding fragment thereof according to any one of claims 1 to 17 which does not bind β2 microglobulin.
19. An isolated DNA sequence encoding the heavy and/or light chain(s) of an antibody according to any one of claims 1 to 18.
20. A cloning or expression vector comprising one or more DNA sequences according to claim 19.
21. A vector according to claim 20, wherein the vector comprises (i) the sequence given in SEQ ID NO:37 and the sequence given in SEQ ID NO:23 or (ii) the sequence given in SEQ ID NO:80 and the sequence given in SEQ ID NO:79 or (iii) the sequence given in SEQ ID NO:93 and the sequence given in SEQ ID NO:91.
22. A host cell comprising one or more cloning or expression vectors according to claim 20 or claim 21.
23. A process for the production of an antibody having binding specificity for human FcRn, comprising culturing the host cell of claim 22 and isolating the antibody.
24. A pharmaceutical composition comprising an anti-FcRn antibody or binding fragment thereof as defined in any one of claims 1 to 18 in combination with one or more of a pharmaceutically acceptable excipient, diluent or carrier.
25. A pharmaceutical composition according to claim 24, additionally comprising other active ingredients.
26. An antibody or binding fragment thereof as defined in any one of claims 1 to 18 or a composition as defined in claim 24 or 25 for use in therapy.
27. An antibody or binding fragment thereof as defined in any one of claims 1 to 18 or a composition as defined in claim 24 or 25, for use in the treatment of an autoimmune disease, such as myasthenia gravis, Pemphigus vulgaris, Neuromyelitis optica, Guillain-Barré syndrome, lupus, Idiopathic thrombocytopenic purpura and thrombotic thrombocytopenic purpura.