CLAIMS

1. Use of an anti-PCSK9 antibody or antigen-binding fragment thereof in the manufacture of a medicament for preventing or treating hypercholesterolemia in a human subject, wherein the anti-PCSK9 antibody or antigen-binding fragment thereof is to be administered:

(i) at a dose of 75 mg to 140 mg at an interval of once every two weeks (Q2W); or

(ii) at a dose of 300 mg to 450 mg at an interval of once every four weeks (Q4W); or

(iii) at a dose of 450 mg to 600 mg at an interval of once every six weeks (Q6W),

wherein the anti-PCSK9 antibody or antigen-binding fragment thereof comprises a heavy chain variable region VH and a light chain variable region VL, wherein

(a) the VH comprises a combination of HCDR1, HCDR2 and HCDR3, wherein HCDR1 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 10; HCDR2 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 17; HCDR3 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 19; and

(b) the VL comprises a combination of LCDR1, LCDR2 and LCDR3, wherein LCDR1 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 4; LCDR2 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 5; LCDR3 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 6.

2. Use of an anti-PCSK9 antibody or antigen-binding fragment thereof in the manufacture of a medicament for preventing or treating hyperlipidemia in a human subject, wherein the anti-PCSK9 antibody or antigen-binding fragment thereof is to be administered:

(i) at a dose of 75 mg to 140 mg at an interval of once every two weeks (Q2W); or

(ii) at a dose of 300 mg to 450 mg at an interval of once every four weeks (Q4W); or

(iii) at a dose of 450 mg to 600 mg at an interval of once every six weeks (Q6W),

wherein the anti-PCSK9 antibody or antigen-binding fragment thereof comprises a heavy chain variable region VH and a light chain variable region VL, wherein

(a) the VH comprises a combination of HCDR1, HCDR2 and HCDR3, wherein HCDR1 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 10; HCDR2 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 17; HCDR3 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 19; and

(b) the VL comprises a combination of LCDR1, LCDR2 and LCDR3, wherein LCDR1 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 4; LCDR2 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 5; LCDR3 comprises or consists of an amino acid sequence set forth in SEQ ID NO: 6.

3. The use according to any one of claims 1–2, wherein

(a) the heavy chain variable region VH comprises or consists of an amino acid sequence set forth in SEQ ID NO: 30; and

(b) the light chain variable region VL comprises or consists of an amino acid sequence set forth in SEQ ID NO: 24.

4. The use according to any one of claims 1–3, wherein

(a) the heavy chain comprises or consists of an amino acid sequence set forth in SEQ ID NO: 41; and

(b) the light chain comprises or consists of an amino acid sequence set forth in SEQ ID NO: 35.

5. The use according to any one of claims 1–4, wherein the medicament is to be administered parenterally.

6. The use according to any one of claims 1–5, wherein an LDL-cholesterol level in the subject is decreased by > 30%, > 35%, > 40%, > 45%, > 50%, > 55%, > 60%, > 65%, > 70%, > 75%, > 80%, > 85%, or > 90% at 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, 9 weeks, 10 weeks, 3 months, 4 months or 5 months after the medicament has been administered to the subject, compared to the LDL-cholesterol level in the subject before the medicament has been administered.

7. The use according to any one of claims 1–6, wherein a serum free PCSK-9 level in the subject is decreased by > 30%, > 35%, > 40%, > 45%, > 50%, > 55%, > 60%, > 65%, > 70%, > 75%, > 80%, > 85%, or > 90% at 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, 9 weeks, 10 weeks, 3 months, 4 months or 5 months after the medicament has been administered to the subject compared to the serum free PCSK-9 level in the subject before the medicament has been administered.

8. The use according to any one of claims 1–7, wherein a total cholesterol level in the subject is still decreased by > 30%, > 35%, > 40%, > 45%, > 50%, > 55%, > 60%, > 65%, > 70%, > 75%, > 80%, > 85%, or > 90% at 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, 9 weeks, 10 weeks, 3 months, 4 months or 5 months after the medicament has been administered to the subject compared to the total cholesterol level in the subject before the medicament has been administered.

9. The use according to any one of claims 1–8, wherein an apolipoprotein B level in the subject is decreased by > 30%, > 35%, > 40%, > 45%, > 50%, > 55%, > 60%, > 65%, > 70%, > 75%, > 80%, > 85%, or > 90% at 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, 9 weeks, 10 weeks, 3 months, 4 months or 5 months after the medicament has been administered to the subject compared to the apolipoprotein B level in the subject before the medicament has been administered.

10. The use according to any one of claims 1–9, wherein a non-high-density lipoprotein cholesterol level in the subject is still decreased by > 30%, > 35%, > 40%, > 45%, > 50%, > 55%, > 60%, > 65%, > 70%, > 75%, > 80%, > 85%, or > 90% at 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, 9 weeks, 10 weeks, 3 months, 4 months or 5 months after the medicament has been administered to the subject compared to the non-high-density lipoprotein cholesterol level in the subject before the medicament has been administered.

11. The use according to any one of claims 1–10, wherein a lipoprotein a level in the subject is decreased by > 20%, > 30%, > 35%, > 40%, > 45%, > 50%, > 55%, > 60%, > 65%, > 70%, > 75%, > 80%, > 85%, or > 90% at 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, 9 weeks, 10 weeks, 3 months, 4 months or 5 months after the medicament has been administered to the subject compared to the lipoprotein a level in the subject before the medicament has been administered.

12. The use according to any one of claims 1–11, wherein an ApoB/ApoA1 level in the subject is decreased by > 20%, > 30%, > 35%, > 40%, > 45%, > 50%, > 55%, > 60%, > 65%, > 70%, > 75%, > 80%, > 85%, or > 90% at 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, 9 weeks, 10 weeks, 3 months, 4 months or 5 months after the medicament has been administered to the subject compared to the ApoB/ApoA1 level in the subject before the medicament has been administered.

13. The use according to any one of claims 1-12, wherein the anti-PCSK9 antibody or antigen-binding fragment thereof is to be administered:

(i) at a dose of 75 mg or 140 mg at an interval of once every two weeks (Q2W); or

(ii) at a dose of 300 mg or 420 mg at an interval of once every four weeks (Q4W); or

(iii) at a dose of 450 mg or 600 mg at an interval of once every six weeks (Q6W).

14. The use according to any one of claims 1–13, wherein the subject, after the medicament has been administered, does not develop severe adverse events, particularly severe adverse events associated with the anti-PCSK9 antibody or antigen-binding fragment thereof.

15. The use according to any one of claims 1–14, wherein the subject has an incidence of adverse events comparable to a subject that has been administered a placebo.

16. The use according to claim 1, wherein the hypercholesterolemia is selected from homozygous familial hypercholesterolemia, heterozygous familial hypercholesterolemia and non-familial hypercholesterolemia.

17. The use according to any one of claims 1–16, wherein the anti-PCSK9 antibody or antigen-binding fragment thereof is comprised in a liquid antibody preparation comprising:

(i) 100 mg/mL to 200 mg/mL of the anti-PCSK-9 antibody or antigen-binding fragment thereof;

(ii) 0.2 mg/mL to 10 mg/mL of histidine;

(iii) 1% to 6% (w/v) of sorbitol and/or 50 mmol/L to 180 mmol/L of arginine or arginine salt; and

(iv) 0.05 mg/mL to 1 mg/mL of polysorbate-80 or polysorbate-20;

wherein the pH of the liquid preparation is 5.0 to 6.0.

18. The use according to any one of claims 1–17, wherein the anti-PCSK9 antibody or antigen-binding fragment thereof is comprised in a liquid antibody preparation, and the liquid antibody preparation uses water as a solvent and consists of the following compositions:

Anti-PCSK9 antibody or antigen-binding fragment thereof 150 mg/mL

Histidine 1.5 g/L

Arginine 90 mmol/L

Sorbitol 3% (w/v)

Polysorbate 80 0.3 g/L;

wherein the pH of the liquid preparation is 5.5.