

treatment of a metabolic disorder, wherein the metabolic disorder is Type II diabetes, or obesity. Provided herein are nucleic acids encoding for a protein comprising a sequence of any one of SEQ ID NOS: 2420 to 2436.

[0004a] Provided herein is an antibody as described herein for use in therapy.

[0004b] Provided herein is an antibody, wherein the antibody comprises a CDR-H3 comprising a sequence of any one of SEQ ID NOS: 2420 to 2436; and wherein the antibody is a monoclonal antibody, a polyclonal antibody, a bi-specific antibody, a multispecific antibody, a grafted antibody, a human antibody, a humanized antibody, a synthetic antibody, a chimeric antibody, a camelized antibody, a single-chain Fvs (scFv), a single chain antibody, a Fab fragment, a F(ab')₂ fragment, a Fd fragment, a Fv fragment, a single-domain antibody, a diabody, a fragment comprised of only a single monomeric variable domain, disulfide-linked Fvs (sdFv), an intrabody, or an anti-idiotypic (anti-Id) antibody.

[0004c] Provided herein is a use of the antibody or antibody fragment disclosed herein in the manufacture of a medicament for the treatment of a metabolic disease.

[0005] Provided herein are nucleic acid libraries comprising a plurality of nucleic acids, wherein each nucleic acid encodes for a sequence that when translated encodes for an immunoglobulin scaffold, wherein the immunoglobulin scaffold comprises a CDR-H3 loop that comprises a GPCR binding domain, and wherein each nucleic acid comprises a sequence encoding for a sequence variant of the GPCR binding domain. Provided herein are nucleic acid libraries, wherein a length of the CDR-H3 loop is about 20 to about 80 amino acids. Provided herein are nucleic acid libraries, wherein a length of the CDR-H3 loop is about 80 to about 230 base pairs. Provided herein are nucleic acid libraries, wherein the immunoglobulin scaffold further comprises one or more domains selected from variable domain, light chain (VL), variable domain, heavy chain (VH), constant domain, light chain (CL), and constant domain, heavy chain (CH). Provided herein are nucleic acid libraries, wherein the VH domain is IGHV1-18, IGHV1-69, IGHV1-8 IGHV3-21, IGHV3-23, IGHV3-30/33m, IGHV3-28, IGHV3-74, IGHV4-39, or IGHV4-59/61. Provided herein are nucleic acid libraries, wherein the VL domain is IGKV1-39, IGKV1-9, IGKV2-28, IGKV3-11, IGKV3-15, IGKV3-20, IGKV4-1, IGLV1-51, or IGLV2-14. Provided herein are nucleic acid libraries, wherein a length of the VH domain is about 90 to about 100 amino acids. Provided herein are nucleic acid libraries, wherein a length of the VL domain is about 90 to about 120 amino acids. Provided herein are nucleic acid libraries, wherein a length of the VH domain is about 280 to about 300 base pairs. Provided herein are nucleic acid libraries, wherein a length of the VL domain is about 300 to about 350 base pairs. Provided herein are nucleic acid libraries, wherein the library comprises at least 105 non-identical nucleic acids. Provided herein are nucleic acid libraries, wherein the immunoglobulin scaffold

CLAIMS

WHAT IS CLAIMED IS:

1. An antibody, wherein the antibody comprises a CDR-H3 comprising a sequence of any one of SEQ ID NOS: 2420 to 2436.
2. An antibody, wherein the antibody comprises a CDR-H3 comprising a sequence of any one of SEQ ID NOS: 2420 to 2436; and wherein the antibody is a monoclonal antibody, a polyclonal antibody, a bi-specific antibody, a multispecific antibody, a grafted antibody, a human antibody, a humanized antibody, a synthetic antibody, a chimeric antibody, a camelized antibody, a single-chain Fvs (scFv), a single chain antibody, a Fab fragment, a F(ab')₂ fragment, a Fd fragment, a Fv fragment, a single-domain antibody, a diabody, a fragment comprised of only a single monomeric variable domain, disulfide-linked Fvs (sdFv), an intrabody, or an anti-idiotypic (anti-Id) antibody.
3. The antibody or antibody fragment of claim 1 or 2, wherein the antibody or antibody fragment is an antagonist of GLP1R.
4. The antibody or antibody fragment of claim 3 for use in therapy.
5. Use of the antibody or antibody fragment of claim 3 in the manufacture of a medicament for the treatment of a metabolic disease.
6. The use of claim 5, wherein the metabolic disease is Type II diabetes or obesity.