What is claimed is:

1. An isolated antibody or antigen-binding fragment thereof that binds specifically to natriuretic peptide receptor 1 (NPR1) protein, wherein the antibody or antigen-binding fragment thereof comprises three heavy chain complementarity determining regions (CDRs) (HCDR1, HCDR2 and HCDR3) contained within a heavy chain variable region (HCVR) comprising an amino acid sequence of SEQ ID NO:2; and three light chain CDRs (LCDR1, LCDR2 and LCDR3) contained within a light chain variable region (LCVR) comprising an amino acid sequence of SEQ ID NO:10.

2. The antibody or antigen-binding fragment thereof of claim 1 comprising a HCVR having an amino acid sequence of SEQ ID NO: 2.

3. The antibody or antigen-binding fragment thereof of claim 1 comprising a LCVR having an amino acid sequence of SEQ ID NO: 10.

4. The antibody or antigen-binding fragment thereof of claim 1 comprising:

(a) a HCDR1 having an amino acid sequence of SEQ ID NO: 4;

(b) a HCDR2 having an amino acid sequence of SEQ ID NOs: 6;

(c) a HCDR3 having an amino acid sequence of SEQ ID NOs: 8;

(d) a LCDR1 having an amino acid sequence of SEQ ID NO: 12;

(e) a LCDR2 having an amino acid sequence of SEQ ID NO: 14; and

(f) a LCDR3 having an amino acid sequence of SEQ ID NO: 16.

5. The antibody or antigen-binding fragment thereof of claim 4 comprising a HCVR/LCVR amino acid sequence pair of SEQ ID NOs: 2/10.

6. The isolated antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof interacts with one or more amino acids contained within the extracellular domain of NPR1 (amino acids 29-347 of SEQ ID NO: 194), as determined by hydrogen/deuterium exchange, and wherein the antibody or antigen-binding fragment thereof: (i) binds to cells expressing human NPR1 in the presence or absence of atrial natriuretic peptide (ANP); and/or (ii) activates NPR1.

7. The isolated antibody or antigen-binding fragment thereof of claim 6, wherein the antibody or antigen-binding fragment thereof interacts with an amino acid sequence selected from the group consisting of (a) amino acids 29 to 45 of SEQ ID NO: 194, and (b) amino acids 336 to 347 of SEQ ID No: 194.

8. The isolated antibody or antigen-binding fragment thereof of claim 6, wherein the antibody or antigen-binding fragment thereof interacts with an amino acid sequence selected from the group consisting of (a) amino acids 29 to 45 of SEQ ID NO: 194, and (b) amino acids 331 to 347 of SEQ ID No: 194, in the presence of ANP.

9. The antibody or antigen-binding fragment thereof of claim 6, wherein the antibody is a fully human monoclonal antibody.

10. The antibody or antigen-binding fragment thereof of claim 6, wherein the antibody has one or more properties selected from the group consisting of: (a) is a fully human monoclonal antibody; (b) binds to monomeric human NPR1 in the absence of ANP and/or brain natriuretic peptide (BNP) at 25° C. and at 37° C. with a dissociation constant (KD) of less than 690 nM, as measured in a surface plasmon resonance assay; (c) binds to dimeric human NPR1 in the absence of ANP or BNP at and at 37° C. with a KD of less than 42 nM, as measured in a surface plasmon resonance assay; (d) binds to human NPR1 complexed to ANP at 25° C. and 37° C. with a KD of less than 80 nM, as measured in a surface plasmon resonance assay; (e) binds to human NPR1 complexed to BNP at 25° C. and 37° C. with a KD of less than 20 nM, as measured in a surface plasmon resonance assay; (f) binds to monomeric monkey NPR1 in the absence of ANP and/or BNP at 25° C. and 37° C. with a KD of less than 365 nM, as measured in a surface plasmon resonance assay; (g) binds to dimeric monkey NPR1 in the absence of ANP or BNP at 25° C. and at 37° C. with a KD of less than 30 nM, as measured in a surface plasmon resonance assay; (h) binds to monkey NPR1 complexed to ANP at 25° C. and 37° C. with a KD of less than 10 nM, as measured in a surface plasmon resonance assay; (i) binds to monkey NPR1 complexed to BNP at 25° C. and 37° C. with a KD of less than 10 nM, as measured in a surface plasmon resonance assay; (j) does not bind to mouse NPR1; (k) binds to cells expressing human NPR1 (without ANP) or NPR1-complexed to ANP with a EC50 less than 5 nM; (l) activates NPR1 with a EC50 of less than 385 nM, as measured in a calcium flux cell-based bioassay; (m) reduces the systemic blood pressure when administered to normotensive and hypertensive mice, wherein the reduction in systemic and mean arterial blood pressures lasts for up to 28 days upon administration of a single dose; and (n) improves glucose tolerance when administered to diet-induced obese mice.

11. A pharmaceutical composition comprising an isolated antibody or antigen-binding fragment thereof that binds to natriuretic peptide receptor 1 (NPR1) protein according to claim 1 and a pharmaceutically acceptable carrier or diluent.