CLAIMS

What is claimed is:

1.) An anti-pituitary adenylate cyclase-activating peptide (anti-PACAP) antibody or antigen-binding fragment thereof comprising: (a) a heavy chain variable region comprising an amino acid sequence with at least 90% sequence identity to the amino acid sequence of SEQ ID NO: 1042 and comprising the complementarity-determining region 1 (CDR1) sequence consisting of the amino acid sequence of SEQ ID NO: 1044; a complementarity-determining region 2 (CDR2) sequence consisting of the amino acid sequence of SEQ ID NO: 1046; and a complementarity-determining region 3 (CDR3) sequence consisting of the amino acid sequence of SEQ ID NO: 1048; and (b) a light chain variable region comprising an amino acid sequence with at least 90% sequence identity to the amino acid sequence of SEQ ID NO: 1062 and comprising the CDR1 sequence consisting of the amino acid sequence of SEQ ID NO: 1064; a CDR2 sequence consisting of the amino acid sequence of SEQ ID NO: 1066; and a CDR3 sequence consisting of the amino acid sequence of SEQ ID NO: 1068.

2.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** wherein said heavy chain variable region comprises an amino acid sequence having at least 95% identity to the amino acid sequence of SEQ ID NO: 1042 and comprising a CDR1 consisting of the amino acid sequence of SEQ ID NO: 1044; a CDR2 consisting of the amino acid sequence of SEQ ID NO: 1046; and a CDR3 consisting of the amino acid sequence of SEQ ID NO: 1048.

3.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** wherein said light chain variable region comprises an amino acid sequence having at least 95% identity to the amino acid sequence of SEQ ID NO: 1062 and comprising a CDR1 consisting of the amino acid sequence of SEQ ID NO: 1064; a CDR2 consisting of the amino acid sequence of SEQ ID NO: 1066; and a CDR3 consisting of the amino acid sequence of SEQ ID NO: 1068.

4.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** wherein said light chain variable region comprises the amino acid sequence of SEQ ID NO: 1042, and said light chain variable region comprises the amino acid sequence of SEQ ID NO: 1062.

5.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** wherein said heavy chain comprises an amino acid sequence having at least 95% identity to the amino acid sequence of SEQ ID NO: 1041 and comprising a CDR1 consisting of the amino acid sequence of SEQ ID NO: 1044; a CDR2 consisting of the amino acid sequence of SEQ ID NO: 1046; and a CDR3 consisting of the amino acid sequence of SEQ ID NO: 1048; and said light chain comprises an amino acid sequence having at least 95% identity to the amino acid sequence of SEQ ID NO: 1061 and comprising a CDR1 consisting of the amino acid sequence of SEQ ID NO: 1064; a CDR2 consisting of the amino acid sequence of SEQ ID NO: 1066; and a CDR3 consisting of the amino acid sequence of SEQ ID NO: 1068.

6.) An anti-PACAP antibody or antigen-binding fragment thereof comprising the heavy chain amino acid sequence of SEQ ID NO: 1041 and the light chain amino acid sequence of SEQ ID NO: 1061.

7.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** which is an antigen binding fragment selected from the group consisting of scFvs, fragment antigen binding ("Fab") fragments, Fab' fragments, monovalent antigen binding fragments and F(ab')2 fragments.

8.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** wherein said antibody or antigen binding fragment lacks N-glycosylation and/or O-glycosylation.

9.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** wherein said antibody or antigen binding fragment comprises a human IgGl, IgG2, IgG3, or IgG4 constant domain.

10.) The anti-PACAP antibody or antigen-binding fragment thereof of claim 1, wherein said antibody or antigen binding fragment comprises an Fc region that has been modified to increase or decrease at least one of effector function, half-life, proteolysis, or glycosylation.

11.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **10,** wherein said Fc region comprises the sequence of any of the amino acid sequence of SEQ ID NO:1244, 1245 or 1246.

12.) The anti-PACAP antibody or antigen-binding fragment thereof of claim 1, herein said antibody or antigen binding fragment binds to human pituitary adenylate cyclase-activating peptide (PACAP) with a binding affinity (K_D) of less than or equal to $5x10^{-10}$M as determined by surface plasmon resonance at 25° C.

13.) The anti-PACAP antibody or antigen-binding fragment thereof of claim 1, wherein said antibody or antigen binding fragment binds to pituitary adenylate cyclase-activating peptide (PACAP) with an off-rate (k_d) of less than or equal to $5x10^{-4}\ s^{-1}$.

14.) The anti-PACAP antibody or antigen-binding fragment thereof of claim **1,** wherein said antibody or antigen binding fragment is directly or indirectly attached to a detectable label or therapeutic agent.

15.) The anti-PACAP antibody or antigen-binding fragment thereof of claim 1, wherein said antibody or antigen binding fragment has stronger affinity for human pituitary adenylate cyclase-activating peptide (PACAP) than human vasoactive intestinal peptide (VIP).

16.) The anti-PACAP antibody or antigen-binding fragment thereof of claim 1, wherein the binding affinity (K_D) of said antibody or antigen binding fragment to human pituitary adenylate cyclase-activating peptide (PACAP) is at least 10-fold stronger than the binding affinity of said antibody or antigen binding fragment to human vasoactive intestinal peptide (VIP).

17.) A composition comprising at least one anti-PACAP antibody or antigen binding fragment according to claim 1 and a pharmaceutically acceptable diluent, carrier, solubilizer, emulsifier, preservative, or mixture thereof.

18.) The composition according to claim 17, wherein said composition is suitable for subcutaneous, intravenous, or intramuscular administration.

19.) The composition according to claim 17, wherein said composition is lyophilized, stabilized, and/or formulated for administration by injection.