CLAIMS

What is claimed is:

1.) An anti-human CGRP antibody or antibody fragment which specifically binds to the same or overlapping linear or conformational epitope(s) and/or competes for binding to the same or overlapping linear or conformational epitope(s) on an intact CGRP polypeptide or fragment thereof as an anti-human CGRP antibody selected from Ab1, Ab2, Ab3, Ab4, Ab5, Ab6, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14.

2.) The anti-human CGRP antibody or fragment of claim 1 which specifically binds to the same or overlapping linear or conformational epitope(s) and/or competes for binding to the same or overlapping linear or conformational epitope(s) on an intact human CGRP polypeptide or a fragment thereof as Ab3, Ab6, Ab13 or Ab14.

3.) The antibody fragment of claim 1, wherein said fragment is selected from a Fab fragment, a Fab' fragment, a F(ab')2 fragment, or a monovalent antibody such as "metMab".

4.) The antibody fragment of claim 3, wherein said fragment is a Fab fragment.

5.) An anti-human CGRP antibody or antibody fragment according to claim 1, that comprises the same CDRs as an anti-human CGRP antibody selected from Ab1, Ab2, Ab3, Ab4, Ab5, Ab6, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14.

6.) The Fab fragment of claim 4, comprising a variable light chain comprising the CDR 1 sequence of SEQ ID NO:25, the CDR 2 sequence of SEQ ID NO:26, and the CDR 3 sequence of SEQ ID NO:27, and/or a variable heavy chain comprising the CDR 1 sequence of SEQ ID NO:28, the CDR 2 sequence of SEQ ID NO:29, and the CDR 3 sequence of SEQ ID NO:30.

7.) The Fab fragment of claim 4, comprising a variable light chain comprising the CDR 1 sequence of SEQ ID NO:55, the CDR 2 sequence of SEQ ID NO:56, and the CDR 3

sequence of SEQ ID NO:57, and/or a variable heavy chain comprising the CDR 1 sequence of SEQ ID NO:58, the CDR 2 sequence of SEQ ID NO:59, and the CDR 3 sequence of SEQ ID NO:60.

8.) The anti-human CGRP antibody or antibody fragment of claim 1 which comprises at least 2 complementarity determining regions (CDRs) in each of the variable light and the variable heavy regions which are identical to those contained in an anti-human CGRP antibody selected from Ab1, Ab2, Ab3, Ab4, Ab5, Ab6, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14.

9.) The anti-human CGRP antibody or antibody fragment of claim 8 which comprises at least 2 complementarity determining regions (CDRs) in each of the variable light and the variable heavy regions which are identical to those contained in Ab3, Ab6, Ab7, Ab8, Ab13 or Ab14.

10.) The anti-human CGRP antibody or antibody fragment of claim 1 which is aglycosylated or if glycosylated only contains only mannose residues.

11.) The anti-human CGRP antibody or antibody fragment of claim 1 which is not N-glycosylated.

12.) The anti-human CGRP antibody or antibody fragment of claim 1 which contains an Fc region that has been modified to alter effector function, half-life, proteolysis, and/or glycosylation.

13.) The anti-human CGRP antibody or antibody fragment of claim 1 which is a humanized, single chain or chimeric antibody.

14.) The anti-human CGRP antibody or antibody fragment of claim 1 which specifically binds to CGRP expressing human cells and/or to circulating soluble CGRP molecules *in vivo*.

15.) The anti-human CGRP antibody or antibody fragment of claim 14 which specifically binds to CGRP expressed on or by human cells in a patient with a disease associated with cells that bind CGRP.

16.) The anti-human CGRP antibody or antibody fragment of claim 15 wherein the disease is migraine (with or without aura), a condition with CGRP- associated pain, weight loss, cancer or tumors, overactive bladder, urinary incontinence, pruritis, psoriasis, ulcer, a cardiac condition, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, migraines, chronic migraines, frequent episodic migraines, menstrual migraines, hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysomal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis), allergy-induced headaches or migraines, pain, TMJ, temporomandibular jaw disorders, inflammatory pain, visceral pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, and other nociceptic pain, as well as hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, post-herpetic neuralgia, phantom limb pain, fibromyalgia, menstrual pain, ovarialgia, reflex sympathetic dystrophy, neurogenic pain, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, or visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, or pancreatitis.

17.) The anti-human CGRP antibody or antibody fragment of claim 15 wherein the disease is selected from pain, visceral pain, TMJ, temporomandibular jaw disorders, headache, overactive bladder, urinary incontinence or migraine.

18.) The anti-human CGRP antibody or fragment of claim 17 wherein the disease is migraine.

19.) The anti-human CGRP antibody or fragment of claim 17 wherein the disease is migraine with or without aura.

20.) The anti-human CGRP antibody or fragment of claim 17 wherein the disease is one of the following types of migraines: chronic migraine, frequent episodic migraines, or menstrual migraines.

21.) The anti-human CGRP antibody or fragment of claim 17 wherein the disease is cluster headache.

22.) The anti-human CGRP antibody or fragment of claim 1 which is directly or indirectly attached to a detectable label or therapeutic agent.

23.) A nucleic acid sequence or nucleic acid sequences which result in the expression of an anti-human CGRP antibody or antibody fragment according to claim 1 or claim 5.

24.) The nucleic acid sequence or sequences of claim 23 which are comprised of yeast or human preferred codons.

25.) A vector comprising a nucleic acid sequence or sequences according to claim 24.

26.) The vector of claim 25 which is a plasmid or recombinant viral vector.

27.) A cultured or recombinant cell which expresses an antibody or antibody fragment according to any one of claims 1-22.

28.) The cell of claim 27 which is selected from a mammalian, yeast, bacterial, fungal, or insect cell.

29.) The cell of claim 28 which is a yeast cell.

30.) The cell of claim 29 which is a diploidal yeast cell.

31.) The yeast cell of claim 30 which is a Pichia yeast.

32.) A method of treatment comprising administering to a patient with a disease or condition treatable by the administration of a CGRP antagonist a therapeutically effective amount of at least one anti-human CGRP antibody or fragment according to claim 1 or 5.

33.) The method of Claim 32, wherein the disease or condition is one associated with CGRP expressing cells a therapeutically effective amount of at least one anti-human CGRP antibody or fragment according to claim 1 or 5.

34.) The method of claim 32 or 33 wherein the disease is selected from migraine (with or without aura), weight loss, cancer or tumors, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, migraine, chronic migraine, frequent episodic migraines, or menstrual migraines hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysomal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis), allergy-induced headaches or migraines, pain, inflammatory pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, and other nociceptic pain, as well as hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, post-herpetic neuralgia, phantom limb pain, fibromyalgia, menstrual pain, ovarialgia, reflex sympathetic dystrophy, neurogenic pain, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, or visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, or pancreatitis.

35.) The method of claim 32 or 33, wherein the condition comprises overactive bladder; urinary incontinence; pain; chronic pain; neurogenic inflammation and inflammatory pain; neuropathic pain; eye pain; tooth pain; post-surgical pain, trauma related pain, diabetes; non-insulin dependent diabetes mellitus and other inflammatory autoimmune disorders,

vascular disorders; inflammation; arthritis; bronchial hyperreactivity, asthma; shock; sepsis; opiate withdrawal syndrome; morphine tolerance; hot flashes in men and women; allergic dermatitis; psoriasis; encephalitis; brain trauma; epilepsy; neurodegenerative diseases; skin diseases including pruritis, neurogenic cutaneous redness, skin rosaceousness and erythema; inflammatory bowel disease, irritable bowel syndrome, cystitis; and dysmennorhea.

36.) The method of claim 32 or 33 wherein the disease or condition is pain, overactive bladder, urinary incontinence, headache or migraine.

37.) The method of claim 32 or 33 wherein the treatment further includes the administration of another therapeutic agent or regimen selected from anti-histamines, anti-inflammatory agents, analgesics or antibiotics.

38.) The method of Claim 37, wherein the analgesic is an NSAID, an opioid analgesic, an antibody or antibody fragment or another analgesic biologic.

39.) The method of Claim 38, wherein the analgesic is an opioid and the method is used to reduce or prevent tolerance to the opioid.

40.) The method of claim 38, wherein the opioid is morphine or a morphine derivative.

41.) The method of Claim 37, wherein the other analgesic is a NGF antibody or antibody fragment.

42.) A method of *in vivo* imaging which detects the presence of cells which express CGRP comprising administering a diagnostically effective amount of at least one anti-human CGRP antibody or antibody fragment according to claim 1.

43.) The method of claim 42 wherein said administration further includes the administration of a radionuclide or fluorophore that facilitates detection of the antibody at CGRP expressing disease sites.

44.) The method of claim 42 wherein the results are used to facilitate design of an appropriate therapeutic regimen.

45.) An isolated anti-CGRP antibody or antibody fragment comprising a V_H polypeptide sequence selected from: SEQ ID NO: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123, or 133, or a variant thereof that exhibits at least 90% sequence identity therewith; and/or a V_L polypeptide sequence selected from: SEQ ID NO: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131, or a variant thereof that exhibits at least 90% sequence identity therewith, wherein one or more of the framework (FR) or CDR residues in said V_H or V_L polypeptide has been substituted with another amino acid residue resulting in an anti-CGRP antibody that specifically binds CGRP.

46.) An isolated anti-CGRP antibody or antibody fragment comprising a V_H polypeptide sequence selected from: SEQ ID NO: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123, or 133, or a variant thereof that exhibits at least 95% sequence identity therewith; and/or a V_L polypeptide sequence selected from: SEQ ID NO: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131, or a variant thereof that exhibits at least 90% sequence identity therewith, wherein one or more of the framework (FR) or CDR residues in said V_H or V_L polypeptide has been substituted with another amino acid residue resulting in an anti-CGRP antibody that specifically binds CGRP.

47.) The isolated antibody or antibody fragment of claim 45 or 46 wherein one or more of said FR residues are substituted with an amino acid present at the corresponding site in a parent rabbit anti-CGRP antibody from which the complementarity determining regions (CDRs) contained in said V_H or V_L polypeptides have been derived or by a conservative amino acid substitution.

48.) The isolated antibody antibody or antibody fragment of claim 45 or 46 wherein at most 1 or 2 of the residues in the CDRs of said V_L polypeptide sequence are modified.

49.) The isolated antibody antibody or antibody fragment of claim 45 or 46 wherein at most 1 or 2 of the residues in the CDRs of said V_H polypeptide sequence are modified.

50.) The antibody or antibody fragment of claim 45 or 46, wherein said antibody is humanized.

51.) The antibody or antibody fragment of claim 45 or 46, wherein said antibody is chimeric.

52.) The antibody or antibody fragment of claim 45 or 46 which comprises a single chain antibody.

53.) The antibody of claim 50 or 51, wherein said humanized or chimeric antibody comprises a human F_c.

54.) The antibody or antibody fragment of claim 53, wherein said human F_c is derived from IgG1, IgG2, IgG3, or IgG4.

55.) The antibody or antibody fragment of any one of claims 45-54, wherein said antibody inhibits the association of CGRP with CGRP-R and/or multimers thereof, one or more additional proteins in a CGRP-CGRP-R complex, and/or antagonizes the biological effects thereof.

56.) An isolated anti-CGRP antibody or antibody fragment comprising a polypeptide sequence having at least 90% or greater homology to any one of the polypeptide sequences of claim 45 or 46.

57.) An isolated anti-CGRP antibody or antibody fragment comprising a polypeptide sequence having at least 95% or greater homology to any one of the polypeptide sequences of claim 45 or 46.

58.) The antibody or antibody fragment of claim 56, wherein said antibody binds to CGRP with an off-rate (K_{off}) of less than or equal to 10^{-4} S^{-1}, $5x10^{-5}$ S^{-1}, 10^{-5} S^{-1}, $5x10^{-6}$ S^{-1}, 10^{-6} S^{-1}, $5x10^{-7}$ S^{-1}, or 10^{-7} S^{-1}.

59.) The antibody or antibody fragment of any one of claims 45-58, wherein said antibody inhibits the production of a complex of CGRP with CGRP-R and/or multimers thereof, and the production of CGRP with CGRP-R and one or more additional proteins in a complex.

60.) An antibody fragment according to of any one of claims 45-59, wherein said fragment is selected from a Fab fragment, a Fab' fragment, or a F(ab')2 fragment.

61.) The antibody or antibody fragment of any one of claims 45-60, wherein said antibody or antibody fragment further comprises an effector moiety.

62.) The antibody or antibody fragment of claim 61, wherein the effector moiety is a detectable moiety or a functional moiety.

63.) The antibody of claim 62, wherein said detectable moiety is a fluorescent dye, an enzyme, a substrate, a bioluminescent material, a radioactive material, or a chemiluminescent material.

64.) The antibody of claim 62, wherein said functional moiety is streptavidin, avidin, biotin, a cytotoxin, a cytotoxic agent, or a radioactive material.

65.) A method of ameliorating or reducing symptoms of a disease or disorder treatable by the administration of a CGRP antagonist comprising administering to an individual in need thereof a therapeutically effective amount of a CGRP antibody or antibody fragment according to any one of claims 45-64.

66.) The method of Claim 65, wherein the disease is associated with increased CGRP.

67.) The method of claim 65 or 66, wherein said disease or disorder is selected from migraine (with or without aura), weight loss, cancer or tumors, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysomal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis), allergy-induced headaches

or migraines, pain, inflammatory pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, and other nociceptic pain, as well as hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, post-herpetic neuralgia, phantom limb pain, fibromyalgia, menstrual pain, ovarialgia, reflex sympathetic dystrophy, neurogenic pain, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, or visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, or pancreatitis.

68.) The method of claim 65 or 66, wherein the condition comprises overactive bladder, pain; TMJ, temporomandibular jaw disorders, chronic pain; neurogenic inflammation and inflammatory pain; neuropathic pain; eye pain; tooth pain; post-surgical pain, trauma related pain, diabetes; non-insulin dependent diabetes mellitus and other inflammatory autoimmune disorders, vascular disorders; inflammation; arthritis; sarcoidosis, bronchial hyperreactivity, asthma; shock; sepsis; opiate withdrawal syndrome; morphine tolerance; hot flashes in men and women; allergic dermatitis; psoriasis; encephalitis; brain trauma; epilepsy; neurodegenerative diseases; skin diseases including pruritis, neurogenic cutaneous redness, skin rosaceousness and erythema; inflammatory bowel disease, irritable bowel syndrome, cystitis; and dysmennorhea.

69.) The method of claim 65 or 66 wherein the disease or condition is pain, overactive bladder, headache, or migraine.

70.) The method of any of Claims 65-69, wherein the CGRP antibody or antibody fragment comprises the same CDRs as Ab3 or Ab6.

71.) The method of any of Claims 65-69, wherein the CGRP antibody or antibody fragment is administered in a therapeutic regimen for treatment of a specific disease or condition associated with pain that includes the administration of another therapeutic agent.

72.) The method of Claim 71, wherein the other therapeutic agent is selected from a chemotherapeutic, an analgesic, an anti-inflammatory, an immunosuppressant, a cytokine, an antiproliferative, an antiemetic and a cytotoxin.

73.) The method of Claim 71, wherein the other therapeutic agent is an analgesic.

74.) The method of Claim 73, wherein the other analgesic is an NSAID, an opioid analgesic, an antibody or a non-antibody biologic.

75.) The method of Claim 74, wherein the antibody is a NGF antibody or antibody fragment.

76.) The method of Claim 73, wherein the other analgesic is an NSAID is a cyclooxygenase 1 and/or cyclooxygenase 2 inhibitor.

77.) The method of Claim 76 wherein the NSAID is selected from (1) propionic acid derivatives including ibuprofen, naproxen, naprosyn, diclofenac, and ketoprofen; (2) acetic acid derivatives including tolmetin and sulindac; (3) fenamic acid derivatives including mefenamic acid and meclofenamic acid; (4) biphenylcarboxylic acid derivatives including diflunisal and flufenisal; and (5) oxicams including piroxim, sudoxicam, and isoxicam.

78.) The method of Claim 73, wherein the other analgesic is a phenanthrene; phenylheptylamine; phenylpiperidine; morphinans; or benzomorphan compound.

79.) The method of Claim 73, wherein the other analgesic is an opioid analgesic selected from codeine, dihydrocodeine, diacetylmorphine, hydrocodone, hydromorphone, levorphanol, oxymorphone, alfentanil, buprenorphine, butorphanol, fentanyl, sufentanyl, meperidine, methadone, nalbuphine, propoxyphene and pentazocine or pharmaceutically acceptable salts thereof.

80.) The method of Claim 78 or 79, wherein the combined administration of the opioid analgesic and the CGRP antibody or antibody fragment increase the analgesic effect elicited thereby and/or alleviates tolerance to the analgesic.

81.) The method of claim 79, wherein the opioid analgesic is morphine or a morphine derivative or pharmaceutically acceptable salt thereof.

82.) A method of making the antibody or antibody fragment of claim 45 in a polyploid yeast culture that stably expresses and secretes into the culture medium at least 10-25 mg/liter of said antibody, comprising:

(i) introducing at least one expression vector containing one or more heterologous polynucleotides encoding said antibody operably linked to a promoter and a signal sequence into a haploid yeast cell;

(ii) producing by mating or spheroplast fusion a polyploidal yeast from said first and/or second haploid yeast cell;

(iii) selecting polyploidal yeast cells that stably express said antibody; and

(iv) producing stable polyploidal yeast cultures from said polyploidal yeast cells that stably express said antibody into the culture medium.

83.) The method of claim 82, wherein said yeast genera is *Pichia*.

84.) The method of claim 83, wherein the species of *Pichia* is selected from *Pichia pastoris*, *Pichia methanolica* or *Hansenula polymorpha* (*Pichia angusta*).

85.) The method of claim 83, wherein the species of *Pichia* is *Pichia pastoris*.

86.) An isolated polynucleotide comprising a polynucleotide encoding an anti-CGRP V_H antibody amino acid sequence selected from SEQ ID NO: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123 or 133, or encoding a variant thereof which exhibits at least 90% sequence identity therewith.

87.) The isolated polynucleotide of Claim 86, wherein the polynucleotide sequence encodes an anti- CGRP V_H antibody amino acid sequence wherein at least one framework residue (FR residue) has been substituted with an amino acid present at the corresponding position in a rabbit anti-CGRP antibody V_H polypeptide or by a conservative amino acid substitution.

88.) A vector or host cell comprising the polynucleotide sequence of claim 86 or 87.

89.) The host cell of claim 88, wherein said host cell is a yeast cell belonging to the genus *Pichia*.

90.) The method of claim 82, wherein said heterologous polynucleotide further comprises a polynucleotide sequence encoding an anti-CGRP V_L amino acid sequence selected from SEQ ID NO: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131, or a polynucleotide encoding a variant thereof which exhibits at least 90% sequence identity therewith.

91.) The method of claim 90, wherein the polynucleotide sequence which encodes an anti- CGRP V_L antibody amino acid sequence comprises at least one framework residue (FR residue) which has been substituted with an amino acid present at the corresponding position in a rabbit anti-CGRP antibody V_L polypeptide or by a conservative amino acid substitution.

92.) An isolated polynucleotide comprising the polynucleotide sequence encoding an anti-CGRP V_L antibody amino acid sequence selected from SEQ ID NO: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131, or encoding a variant which exhibits at least 90% sequence identity therewith.

93.) The An isolated polynucleotide of Claim 92, wherein the polynucleotide sequence which encodes an anti- CGRP V_L antibody amino acid sequence comprises at least one framework residue (FR residue) which has been substituted with an amino acid present at the corresponding position in a rabbit anti-CGRP antibody V_L polypeptide or by a conservative amino acid substitution.

94.) A vector comprising the polynucleotide sequence of claim 92 or 93.

95.) A host cell comprising the vector of claim 94.

96.) The host cell of claim 95, wherein said host cell is a yeast cell belonging to the genus *Pichia*.

97.) The method of claim 90, wherein said heterologous polynucleotide comprises a sequence encoding the polypeptides contained in SEQ ID NO:1 and SEQ ID NO:3; SEQ ID NO:11 and SEQ ID NO:13; SEQ ID NO:21 and SEQ ID NO:23; SEQ ID NO:31 and SEQ ID NO:33; SEQ ID NO:41 and SEQ ID NO:43; SEQ ID NO:51 and SEQ ID NO:53, SEQ ID NO:61 and SEQ ID NO:63; SEQ ID NO:71 and SEQ ID NO:73; SEQ ID NO:81 and SEQ ID NO:83; SEQ ID NO:91 and SEQ ID NO:93; SEQ ID NO:101 and SEQ ID NO:103; SEQ ID NO:111 and SEQ ID NO:113; SEQ ID NO:121 and SEQ ID NO:123; or SEQ ID NO:131 and SEQ ID NO:133.

98.) An anti-CGRP antibody or antibody fragment that binds with the same or overlapping CGRP epitope and/or competes with an anti-CGRP antibody for binding to CGRP as an antibody or antibody fragment containing a sequence encoded by one of the polynucleotide sequences recited in claim 92 or 97.

99.) The anti-CGRP antibody or antibody fragment of claim 98 which binds to the same or overlapping CGRP epitope as an anti-CGRP antibody selected from Ab1, Ab2, Ab3, Ab4, Ab5, Ab6, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14.

100.) An isolated anti-CGRP antibody or antibody fragment comprising one or more of the CDRs contained in the V_H polypeptide sequences selected from: SEQ ID NO: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123, or 133 and/or one or more of the CDRs contained in the V_L polypeptide sequences selected from: SEQ ID NO: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131.

101.) The isolated anti-CGRP antibody or antibody fragment of Claim 100, comprising at least 2 of the CDRs contained in a V_H polypeptide sequences selected from: SEQ ID NO: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123, or 133 and/or at least 2 of the CDRs contained in the V_L polypeptide sequences selected from: SEQ ID NO: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131.

102.) The isolated anti-CGRP antibody or antibody fragment of Claim 101 comprising all 3 the CDRs contained in the V_H polypeptide sequences selected from: SEQ ID NO: 3, 13,

23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123, or 133 and/or all 3 of the CDRs contained in the V_L polypeptide sequences selected from: SEQ ID NO: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131.

103.) The antibody or antibody fragment of claim 99, 100, 101 or 102, wherein said antibody or antibody fragment is humanized.

104.) The antibody of claim 99, 100, 101 or 102, wherein said antibody is chimeric.

105.) The antibody of claim 104, wherein said chimeric antibody comprises a human F_c.

106.) The antibody of claim 99, 100, 101, or 102, which comprises a single chain antibody.

107.) The antibody of claim 99 or 100 which comprises a monovalent antibody molecule.

108.) The antibody of claim 105 wherein said human F_c is derived from human IgG1, IgG2, IgG3, or IgG4.

109.) An isolated anti-CGRP antibody or antibody fragment comprising a V_L or V_H polypeptide sequence having at least 90% or greater homology to any one of the polypeptide sequences recited in claim 100 or 101.

110.) The antibody or antibody fragment of claim 109, wherein said antibody binds to CGRP with an off-rate (k_{off}) of less than or equal to 10^{-4} S^{-1}, $5x10^{-5}$ S^{-1}, 10^{-5} S^{-1}, $5x10^{-6}$ S^{-1}, 10^{-6} S^{-1}, $5x10^{-7}$ S^{-1}, or 10^{-7} S^{-1}.

111.) The antibody or antibody fragment of any one of claims 99-110, wherein said antibody inhibits the association of CGRP with CGRP-R and/or multimers thereof, or the association of CGRP with its receptor (CGRP-R) and one or more additional proteins in a complex.

112.) An antibody fragment according to any one of claims 99-110, wherein said fragment is selected from a Fab fragment, a Fab' fragment, or a F(ab')2 fragment.

113.) The antibody or antibody fragment of any one of claims 99-110, wherein said antibody further comprises an effector moiety.

114.) The antibody of claim 113, wherein the effector moiety is a detectable moiety or a functional moiety.

115.) The antibody of claim 114, wherein said detectable moiety is a fluorescent dye, an enzyme, a substrate, a bioluminescent material, a radioactive material, or a chemiluminescent material.

116.) The antibody of claim 114, wherein said functional moiety is streptavidin, avidin, biotin, a cytotoxin, a cytotoxic agent, or a radioactive material.

117.) A method of ameliorating or reducing symptoms of a disease or disorder treatable by the administration of a CGRP antagonist, comprising administering to a patient in need thereof an effective amount of an antibody or antibody fragment according to any one of claims 99-116.

118.) The method of claim 117, wherein the disease or disorder is associated with increased CGRP.

119.) The method of claim 118, wherein said disease or disorder is selected from migraine (with or without aura), weight loss, cancer or tumors, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysomal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis), allergy-induced headaches or migraines, pain, inflammatory pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, and other nociceptic pain, as well as hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, post-

herpetic neuralgia, phantom limb pain, fibromyalgia, menstrual pain, ovarialgia, reflex sympathetic dystrophy, neurogenic pain, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, or visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, or pancreatitis.

120.) The method of claim 118, wherein the condition comprises overactive bladder, pain; chronic pain; neurogenic inflammation and inflammatory pain; neuropathic pain; eye pain; tooth pain; post-surgical pain, trauma related pain, diabetes; non-insulin dependent diabetes mellitus and other inflammatory autoimmune disorders, vascular disorders; inflammation; arthritis; bronchial hyperreactivity, asthma; shock; sepsis; opiate withdrawal syndrome; morphine tolerance; hot flashes in men and women; allergic dermatitis; psoriasis; encephalitis; brain trauma; epilepsy; neurodegenerative diseases; skin diseases including pruritis, neurogenic cutaneous redness, skin rosaceousness and erythema; inflammatory bowel disease, irritable bowel syndrome, cystitis; and dysmennorhea.

121.) The method of Claim 118, wherein the condition or disorder is migraine, overactive bladder, a pain associated disease or condition, or opioid analgesic tolerance.

122.) The method of Claim 118, wherein the CGRP antibody or antibody fragment is administered in a therapeutic regimen for treatment of a specific disease or condition associated with pain that includes the administration of another therapeutic agent.

123.) The method of Claim 122, wherein the other therapeutic agent is selected from a chemotherapeutic, an analgesic, an anti-inflammatory, an immunosuppressant, a cytokine, an antiproliferative, an antiemetic and a cytotoxin.

124.) The method of Claim 122, wherein the other therapeutic agent is an analgesic.

125.) The method of Claim 122, wherein the other analgesic is an NSAID, an opioid analgesic, an antibody or a non-antibody biologic.

126.) The method of Claim 125, wherein the antibody is a NGF antibody or antibody fragment.

127.) The method of Claim 125, wherein the other analgesic is an NSAID which comprises a cyclooxygenase 1 and/or cyclooxygense 2 inhibitor.

128.) The method of Claim 127 wherein the NSAID is selected from (1) propionic acid derivatives including ibuprofen, naproxen, naprosyn, diclofenac, and ketoprofen; (2) acetic acid derivatives including tolmetin and slindac; (3) fenamic acid derivatives including mefenamic acid and meclofenamic acid; (4) biphenylcarboxylic acid derivatives including diflunisal and flufenisal; and (5) oxicams including piroxim, sudoxicam, and isoxicam.

129.) The method of Claim 124, wherein the other analgesic is a phenanthrene; phenylheptylamine; phenylpiperidine; morphinans; or benzomorphan compound.

130.) The method of Claim 124, wherein the other analgesic is an opioid analgesic selected from codeine, dihydrocodeine, diacetylmorphine, hydrocodone, hydromorphone, levorphanol, oxymorphone, alfentanil, buprenorphine, butorphanol, fentanyl, sufentanyl, meperidine, methadone, nalbuphine, propoxyphene and pentazocine or pharmaceutically acceptable salts thereof.

131.) The method of Claim 129 or 130, wherein the combined administration of the analgesic and the CGRP antibody or antibody fragment increase the analgesic effect elicited thereby and/or alleviates tolerance to the analgesic.

132.) The method of claim 131, wherein the analgesic is morphine or a morphine derivative or pharmaceutically acceptable salt thereof.

133.) A method of making the antibody of any one of claims 98-116 in a polyploid yeast culture that stably expresses and secretes into the culture medium at least 10-25 mg/liter of said antibody, comprising:

(i) introducing at least one expression vector containing one or more heterologous polynucleotides encoding said antibody operably linked to a promoter and a signal sequence into a haploid yeast cell;

(ii) producing by mating or spheroplast fusion a polyploidal yeast from said first and/or second haploid yeast cell;

(iii) selecting polyploidal yeast cells that stably express said antibody; and

(iv) producing stable polyploidal yeast cultures from said polyploidal yeast cells that stably express at least 10-25 mg/liter of said antibody into the culture medium.

134.) The method of claim 133, wherein said yeast genera is *Pichia*.

135.) The method of claim 134, wherein the species of *Pichia* is selected from *Pichia pastoris*, *Pichia methanolica* or *Hansenula polymorpha* (*Pichia angusta*).

136.) The method of claim 135, wherein the species of *Pichia* is *Pichia pastoris*.

137.) An isolated polynucleotide that expresses a polypeptide containing at least one CDR polypeptide derived from an anti-CGRP antibody wherein said expressed polypeptide alone specifically binds CGRP or specifically binds CGRP when expressed in association with another polynucleotide sequence that expresses a polypeptide containing at least one CDR polypeptide derived from an anti-CGRP antibody wherein said at least one CDR is selected from those contained in the V_L or V_H polypeptides of SEQ ID NO: 1, 3, 11, 13, 21, 23, 31, 33, 41, 43, 51, 53, 61, 63, 71, 73, 81, 83, 91, 93, 101, 103, 111, 113, 121, 123, 131 or 133.

138.) The isolated polynucleotide of Claim 137, that expresses a polypeptide containing 2 or 3 of the CDR polypeptides derived from an anti-CGRP antibody wherein said expressed polypeptide alone specifically binds CGRP or specifically binds CGRP when expressed in association with another polynucleotide sequence that expresses a polypeptide containing 2 or 3 of the CDR polypeptides derived from an anti-CGRP antibody wherein said CDR polypeptides are selected from those contained in the V_L or V_H polypeptides of SEQ ID NO: 1, 3, 11, 13, 21, 23, 31, 33, 41, 43, 51, 53, 61, 63, 71, 73, 81, 83, 91, 93, 101, 103, 111, 113, 121, 123, 131 or 133.

139.) A vector comprising at least one of the polynucleotide sequences of claim 137 or 138.

140.) A host cell comprising the vector of claim 139.

141.) The host cell of claim 140, wherein said host cell is a yeast cell belonging to the genus *Pichia*.

142.) The method of claim 133, wherein said heterologous polynucleotide comprises a polynucleotide sequences encoding at least one CDR contained in a V_L or V_H polypeptide selected from SEQ ID NO: 1, 3, 11, 13, 21, 23, 31, 33, 41, 43, 51, 53, 61, 63, 71, 73, 81, 83, 91, 93, 101, 103, 111, 113, 121, 123, 131 or 133.

143.) A pharmaceutical or diagnostic composition containing at least one CGRP antibody or fragment according to one of claims 1-22 or 99-116 and a pharmaceutically acceptable carrier.

144.) The pharmaceutical or diagnostic composition of claim 143 which further comprises at least one stabilizer.

145.) The pharmaceutical or diagnostic composition of claim 143 or 144 which is lyophilized.

146.) The pharmaceutical or diagnostic composition of claim 143 or 144 which comprises one or more anti-CGRP antibodies selected from Ab1, Ab2, Ab3, Ab4, Ab5, Ab6, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14, or a chimeric or humanized antibody, or fragment derived therefrom.

147.) The pharmaceutical or diagnostic composition of claim 143 or 144 which comprises an anti-CGRP antibody or fragment selected from Ab2 or a chimeric or humanized antibody, or fragment derived therefrom.

148.) The pharmaceutical or diagnostic composition of claim 143 or 144 which comprises an anti-CGRP antibody or fragment selected from Ab3 or a chimeric or humanized antibody, or fragment derived therefrom.

149.) The pharmaceutical or diagnostic composition of claim 143 or 144 which comprises an anti-CGRP antibody or fragment selected from Ab6 or a chimeric or humanized antibody, or fragment derived therefrom.

150.) A method of treating a disease or condition treatable or preventable by the administration of a CGRP antagonist comprising administering a therapeutically effective amount of a pharmaceutical composition according to one of claims 143-149.

151.) The method of claim 150, wherein the disease is selected from migraine (with or without aura), weight loss, cancer or tumors, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysmal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis), allergy-induced headaches or migraines, pain, inflammatory pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, and other nociceptic pain, as well as hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, post-herpetic neuralgia, phantom limb pain, fibromyalgia, menstrual pain, ovarialgia, reflex sympathetic dystrophy, neurogenic pain, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, or visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, or pancreatitis.

152.) The method of claim 150, wherein the disease is pain, a pain associated disorder, overactive bladder, headache, or migraine.

153.) The method of claim 150, wherein the condition comprises overactive bladder, pain; chronic pain; neurogenic inflammation and inflammatory pain; neuropathic pain; eye pain; tooth pain; post-surgical pain, trauma related pain, diabetes; non-insulin dependent diabetes mellitus and other inflammatory autoimmune disorders, vascular disorders; inflammation; arthritis; bronchial hyperreactivity, asthma; shock; sepsis; opiate withdrawal syndrome; morphine tolerance; hot flashes in men and women; allergic dermatitis; psoriasis; encephalitis; brain trauma; epilepsy; neurodegenerative diseases; skin diseases including pruritis, neurogenic cutaneous redness, skin rosaceousness and erythema; inflammatory bowel disease, irritable bowel syndrome, cystitis; and dysmennorhea.

154.) The method of Claim 150, wherein the condition or disorder is migraine, overactive bladder, a pain associated disease or condition, or opioid analgesic tolerance.

155.) The method of Claim 150, wherein the CGRP antibody or antibody fragment is administered in a therapeutic regimen for treatment of a specific disease or condition associated with pain that includes the administration of another therapeutic agent.

156.) The method of Claim 155, wherein the other therapeutic agent is selected from a chemotherapeutic, an analgesic, an anti-inflammatory, an immunosuppressant, a cytokine, an antiproliferative, an antiemetic and a cytotoxin.

157.) The method of Claim 155, wherein the other therapeutic agent is an analgesic.

158.) The method of Claim 157, wherein the other analgesic is an NSAID, an opioid analgesic, an antibody or a non-antibody biologic.

159.) The method of Claim 158, wherein the antibody is a NGF antibody or antibody fragment.

160.) The method of Claim 157, wherein the other analgesic is an NSAID which comprises a cyclooxygenase 1 and/or cyclooxygenase 2 inhibitor.

161.) The method of Claim 160 wherein the NSAID is selected from (1) propionic acid derivatives including ibuprofen, naproxen, naprosyn, diclofenac, and ketoprofen; (2) acetic acid derivatives including tolmetin and slindac; (3) fenamic acid derivatives including mefenamic acid and meclofenamic acid; (4) biphenylcarboxylic acid derivatives including diflunisal and flufenisal; and (5) oxicams including piroxim, sudoxicam, and isoxicam.

162.) The method of Claim 157, wherein the other analgesic is a phenanthrene; phenylheptylamine; phenylpiperidine; morphinans; or benzomorphan compound.

163.) The method of Claim 157, wherein the other analgesic is an opioid analgesic selected from codeine, dihydrocodeine, diacetylmorphine, hydrocodone, hydromorphone, levorphanol, oxymorphone, alfentanil, buprenorphine, butorphanol, fentanyl, sufentanyl, meperidine, methadone, nalbuphine, propoxyphene and pentazocine or pharmaceutically acceptable salts thereof.

164.) The method of Claim 162 or 163, wherein the combined administration of the opioid analgesic and the CGRP antibody or antibody fragment increase the analgesic effect elicited thereby and/or alleviates tolerance to the opioid analgesic.

165.) The method of claim 164, wherein the opioid analgesic is morphine or a morphine derivative or pharmaceutically acceptable salt thereof.

166.) A method of *in vivo* imaging which detects the presence of cells which express CGRP comprising administering a diagnostically effective amount of a diagnostic composition according to any one of claims 143-149.

167.) The method of claim 166 which is used as part of a planning regimen for design of an effective treatment protocol for migraines (with or without aura), weight loss, cancer or tumors, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysomal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis),

allergy-induced headaches or migraines, pain, inflammatory pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, and other nociceptic pain, as well as hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, post-herpetic neuralgia, phantom limb pain, fibromyalgia, menstrual pain, ovarialgia, reflex sympathetic dystrophy, neurogenic pain, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, or visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, or pancreatitis.

168.) The method of claim 167 wherein the treatment protocol includes one or more of anti-histamines, anti-inflammatory agents, or antibiotics.

169.) The method of claim 168 wherein the antibody comprises an anti-CGRP antibody or fragment according to one of claims 1-22 or 98-116.

170.) The antibody of claim 169 wherein the antibody fragment is a single chain antibody is selected from scFv, camelbody, nanobody, IgNAR, SMIP, or combinations, truncations or modifications thereof.

171.) An isolated anti-CGRP antibody that binds to CGRP and inhibits the association of CGRP with CGRP-R, and antagonizes the biological effects thereof.

172.) The isolated anti-CGRP antibody of claim 171, wherein the antibody is selected from Ab2, Ab3, Ab5, Ab6, Ab13, or Ab14.

173.) An isolated anti-CGRP antibody fragment that inhibits the association of CGRP with CGRP-R, and antagonizes the biological effects thereof.

174.) The isolated anti-CGRP fragment of claim 173, wherein the antibody fragment binds the same epitope as Ab2, Ab3, Ab5, Ab6, Ab13 or Ab14.

175.) The isolated anti-CGRP antibody or fragment of claim 174, wherein the antibody is Ab3, Ab6, Ab13 or Ab14 or a fragment thereof.

176.) The isolated anti-CGRP antibody or fragment of claim 174 which contains the same CDRs as Ab3, Ab6, Ab13 or Ab14.

177.) A method of treating pain, comprising administering an effective amount of an anti-CGRP antibody or fragment thereof which inhibits the association of CGRP with CGRP-R.

178.) The method of claim 177, wherein the antibody is Ab3, Ab6, Ab13 or Ab14 or a fragment thereof.

179.) The method of claim 177 wherein the antibody contains the same CDRs as Ab3, Ab6, Ab13 or Ab14.

180.) The method of claim 177, wherein the pain is associated with trauma to the musculoskeletal system, burn, or pre- or post-operative surgery, or is visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, psoriasis, IBD, or pancreatitis.

181.) The method of claim 180, wherein the antibody is Ab3, Ab6, Ab13 or Ab14, or an antibody fragment is derived from Ab3, Ab6, Ab13 or Ab14.

182.) The method of claim 180, wherein the antibody or antibody fragment contains the same CDRs as Ab3, Ab6, Ab13 or Ab14.

183.) A method of treating migraine, comprising administering an effective amount of an anti-CGRP antibody or fragment thereof which inhibits the association of CGRP with CGRP-R.

184.) The method of claim 183, wherein the antibody is Ab2, Ab3, Ab5, Ab6, Ab13 or Ab14, or the antibody fragment is derived from Ab2, Ab3, Ab5, Ab6, Ab13 or Ab14.

185.) A method of treating a non-migraine headache, comprising administering an effective amount of an anti-CGRP antibody or fragment thereof which inhibits the association of CGRP with CGRP-R.

186.) The method of claim 185, wherein the antibody is Ab2, Ab3, Ab5, Ab6, Ab13 or Ab14, or the antibody fragment is derived from Ab2, Ab3, Ab5, Ab6, Ab13 or Ab14.

187.) The method of claim 185, wherein the antibody or antibody fragment contains the same CDRs as Ab2, Ab3, Ab5, Ab6, Ab13 or Ab14.

188.) An anti-CGRP antibody or antibody fragment having binding specificity for CGRP and comprising variable light chain CDR1, CDR2, and CDR3 polypeptide sequences and variable heavy chain CDR1, CDR2, and CDR3 polypeptide sequences selected from the following:

	V_L CDR1	V_L CDR2	V_L CDR3	V_H CDR1	V_H CDR2	V_H CDR3
A	Seq ID No: 5	Seq ID No: 6	Seq ID No: 7	Seq ID No: 8	Seq ID No: 9	Seq ID No: 10
B	Seq ID No: 15	Seq ID No: 16	Seq ID No: 17	Seq ID No: 18	Seq ID No: 19	Seq ID No: 20
C	Seq ID No: 25	Seq ID No: 26	Seq ID No: 27	Seq ID No: 28	Seq ID No: 29	Seq ID No: 30
D	Seq ID No: 35	Seq ID No: 36	Seq ID No: 37	Seq ID No: 38	Seq ID No: 39	Seq ID No: 40
E	Seq ID No: 45	Seq ID No: 46	Seq ID No: 47	Seq ID No: 48	Seq ID No: 49	Seq ID No: 50
F	Seq ID No: 55	Seq ID No: 56	Seq ID No: 57	Seq ID No: 58	Seq ID No: 59	Seq ID No: 60
G	Seq ID No: 65	Seq ID No: 66	Seq ID No: 67	Seq ID No: 68	Seq ID No: 69	Seq ID No: 70
H	Seq ID No: 75	Seq ID No: 76	Seq ID No: 77	Seq ID No: 78	Seq ID No: 79	Seq ID No: 80
I	Seq ID No: 85	Seq ID No: 86	Seq ID No: 87	Seq ID No: 88	Seq ID No: 89	Seq ID No: 90
J	Seq ID	Seq ID	Seq ID	Seq ID	Seq ID	Seq ID

	No: 95	No: 96	No: 97	No: 98	No: 99	No: 100
K	Seq ID No: 105	Seq ID No: 106	Seq ID No: 107	Seq ID No: 108	Seq ID No: 109	Seq ID No: 110
L	Seq ID No: 115	Seq ID No: 116	Seq ID No: 117	Seq ID No: 118	Seq ID No: 119	Seq ID No: 120
M	Seq ID No: 125	Seq ID No: 126	Seq ID No: 127	Seq ID No: 128	Seq ID No: 129	Seq ID No: 130
N	Seq ID No: 135	Seq ID No: 136	Seq ID No:137	Seq ID No: 138	Seq ID No: 139	Seq ID No: 140

189.) The anti-CGRP antibody or antibody fragment of claim 188, wherein said antibody fragment is an scFv, camelbody, nanobody, IgNAR (single-chain antibodies derived from sharks), Fab, Fab', or F(ab')2 fragment.

190.) The anti-CGRP antibody fragment of claim 188, wherein said antibody fragment is a Fab fragment.

191.) The anti-CGRP antibody or antibody fragment of claim 188, comprising a variable light chain polypeptide sequence and a variable heavy chain polypeptide sequence selected from the following:

	Variable Light Chain	Variable Heavy Chain
A	Seq ID No: 1	Seq ID No: 3
B	Seq ID No: 11	Seq ID No: 13
C	Seq ID No: 21	Seq ID No: 23
D	Seq ID No: 31	Seq ID No: 33
E	Seq ID No: 41	Seq ID No: 43
F	Seq ID No: 51	Seq ID No: 53
G	Seq ID No: 61	Seq ID No: 63
H	Seq ID No: 71	Seq ID No: 73
I	Seq ID No: 81	Seq ID No: 83
J	Seq ID No: 91	Seq ID No: 93
K	Seq ID No: 101	Seq ID No: 103
L	Seq ID No: 111	Seq ID No: 113
M	Seq ID No: 121	Seq ID No: 123
N	Seq ID No: 131	Seq ID No: 133

192.) The anti-CGRP antibody or antibody fragment of claim 188, comprising a light chain polypeptide sequence and a heavy chain polypeptide sequence selected from the following:

	Light Chain	Heavy Chain
Ab1	Seq ID No: 2	Seq ID No: 4
Ab2	Seq ID No: 12	Seq ID No: 14
Ab3	Seq ID No: 22	Seq ID No: 24
Ab4	Seq ID No: 32	Seq ID No: 34
Ab5	Seq ID No: 42	Seq ID No: 44
Ab6	Seq ID No: 52	Seq ID No: 54
Ab7	Seq ID No: 62	Seq ID No: 64
Ab8	Seq ID No: 72	Seq ID No: 74
Ab9	Seq ID No: 82	Seq ID No: 84
Ab10	Seq ID No: 92	Seq ID No: 94
Ab11	Seq ID No: 102	Seq ID No: 104
Ab12	Seq ID No: 112	Seq ID No: 114
Ab13	Seq ID No: 122	Seq ID No: 124
Ab14	Seq ID No: 132	Seq ID No: 134

193.) An anti-CGRP antibody or antibody fragment according to any one of claims 188-192 wherein the variable light chain and variable heavy chain polypeptide sequences are each at least 90% identical to one of the variable light chain polypeptide sequences of SEQ ID NOS: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121, or 131, and one of the variable heavy chain polypeptide sequences of SEQ ID NOS: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123 or 133, respectively.

194.) The anti-CGRP antibody or antibody fragment according to any one of claims 188-193 that is chimeric or humanized.

195.) The anti-CGRP antibody or antibody fragment according to any one of claims 188-194 that is aglycosylated or contains only mannose residues.

196.) The anti-CGRP antibody or antibody fragment according to any one of claims 188-193 that comprises a human constant domain.

197.) The anti-CGRP antibody or antibody fragment according to claim 196 that is an IgG1, IgG2, IgG3 or IgG4 antibody.

198.) The anti-CGRP antibody or antibody fragment according to any one of claims 188-196 which contains an Fc region that has been modified to alter at least one of effector function, half-life, proteolysis, and/or glycosylation.

199.) The anti-CGRP antibody or antibody fragment according to claim 198 wherein the Fc region contains a mutation that alters or eliminates glycosylation.

200.) The anti-CGRP antibody or antibody fragment according to any one of claims 188-199 which is directly or indirectly attached to a detectable label or therapeutic agent.

201.) The anti-CGRP antibody or antibody fragment according to any one of claims 188-199 which further comprises an effector moiety.

202.) The anti-CGRP antibody or antibody fragment according to claim 201 wherein the effector moiety is a detectable moiety or a functional moiety.

203.) The anti-CGRP antibody or antibody fragment according to claim 202 wherein said detectable moiety is a fluorescent dye, an enzyme, a substrate, a bioluminescent material, a radioactive material, or a chemiluminescent material.

204.) The anti-CGRP antibody or antibody fragment according to claim 202 wherein said functional moiety is streptavidin, avidin, biotin, a cytotoxin, a cytotoxic agent, or a radioactive material.

205.) An anti-CGRP antibody or antibody fragment according to any one of claims 188-204, wherein the variable light chain and variable heavy chain polypeptide sequences are each at least 95% identical to one of the variable light chain polypeptide sequences of SEQ ID NOS: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131, and one of the variable heavy chain polypeptide sequences of SEQ ID NOS: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123 or 133, respectively.

206.) An anti-CGRP antibody or antibody fragment according to any one of claims 188-205 wherein the variable light chain and variable heavy chain polypeptide sequences are each at least 98% identical to one of the variable light chain polypeptide sequences of SEQ ID NOS: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131, and one of the variable heavy chain polypeptide sequences of SEQ ID NOS: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123 or 133, respectively.

207.) An anti-CGRP antibody or antibody fragment according to any one of claims 188-206 wherein the variable light chain and variable heavy chain polypeptide sequences are each at least 99% identical to one of the variable light chain polypeptide sequences of SEQ ID NOS: 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121 or 131, and one of the variable heavy chain polypeptide sequences of SEQ ID NOS: 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113, 123 or 133, respectively.

208.) A composition containing an anti-CGRP antibody or antibody fragment according to 1-17 or any one of claims 188-207.

209.) The composition of claim 208 that is suitable for therapeutic or diagnostic use.

210.) The composition of claim 208 which further comprises at least one stabilizer.

211.) The composition of claim 208 which is lyophilized.

What is claimed is:

1.) An isolated anti-human CGRP antibody or antibody fragment which specifically binds to the same or overlapping linear or conformational epitope(s) and/or competes for binding to the same or overlapping linear or conformational epitope(s) on an intact CGRP polypeptide or fragment thereof as an anti-human CGRP antibody selected from Ab6, Ab1, Ab2, Ab3, Ab4, Ab5, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14.

2.) The isolated anti-human CGRP antibody or antibody fragment according to claim 1, wherein said anti-human CGRP antibody or antibody fragment comprises:

(i) a V_H polypeptide having the amino acid sequence set forth in SEQ ID NO: 53, 3, 13, 23, 33, 43, 63, 73, 83, 93, 103, 113, 123, or 133, or a variant thereof that exhibits at least 90%, at least 95%, at least 98% or at least 99% sequence identity therewith; and/or

(ii) a V_L polypeptide having the amino acid sequence set forth in SEQ ID NO: 51, 1, 11, 21, 31, 41, 61, 71, 81, 91, 101, 111, 121 or 131, or a variant thereof that exhibits at least 90%, at least 95%, at least 98% or at least 99% sequence identity therewith,

wherein one or more of said FR residues are optionally substituted with an amino acid present at the corresponding site in a parent rabbit anti-CGRP antibody from which the complementarity determining regions (CDRs) contained in said V_H or V_L polypeptides have been derived or by a conservative amino acid substitution, preferably at most 1 or 2 of the residues in the CDRs of said V_L polypeptide sequence and/or at most 1 or 2 of the residues in the CDRs of said V_H polypeptide sequence are modified.

3.) The isolated anti-human CGRP antibody or antibody fragment according to claim 1 or claim 2, which comprises

(i) a variable light chain comprising the CDR1 sequence of SEQ ID NO:55, the CDR2 sequence of SEQ ID NO:56, and the CDR3 sequence of SEQ ID NO:57;

(ii) a variable heavy chain comprising the CDR1 sequence of SEQ ID NO:58, the CDR2 sequence of SEQ ID NO:59, and the CDR3 sequence of SEQ ID NO:60;

(iii) at least 1 complementarity determining regions (CDRs) in each of the variable light and the variable heavy regions which are identical to the CDRs contained in an anti-human CGRP antibody selected from Ab6, Ab1, Ab2, Ab3, Ab4, Ab5, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14;

(iv) at least 2 complementarity determining regions (CDRs) in each of the variable light and the variable heavy regions which are identical to the CDRs contained in an anti-human CGRP antibody selected from Ab6, Ab1, Ab2, Ab3, Ab4, Ab5, Ab7, Ab8, Ab9, Ab10, Ab11, Ab12, Ab13 or Ab14;

(v) all 3 complementarity determining regions (CDRs) in each of the variable light and the variable heavy regions as an anti-human CGRP antibody selected from Ab6, Ab1, Ab2, Ab3, Ab4, Ab5, Ab7, Ab8, Ab9, Ab10, Ab11, A12, Ab13 or Ab14;

(vi) a variable light chain comprising the CDR1 sequence of SEQ ID NO:25, the CDR2 sequence of SEQ ID NO:26, and the CDR3 sequence of SEQ ID NO:27, and/or a variable heavy chain comprising the CDR1 sequence of SEQ ID NO:28, the CDR2 sequence of SEQ ID NO:29, and the CDR3 sequence of SEQ ID NO:30;

(vii) one or more of the CDRs contained in the V_H polypeptide having the amino acid sequence set forth in SEQ ID NO: 53, 3, 13, 23, 33, 43, 63, 73, 83, 93, 103, 113, 123, or 133 and/or one or more of the CDRs contained in the V_L polypeptide having the amino acid sequence set forth in SEQ ID NO: 51, 1, 11, 21, 31, 41, 61, 71, 81, 91, 101, 111, 121 or 131;

(viii) at least 2 of the CDRs contained in a V_H polypeptide having an amino acid sequence set forth in SEQ ID NO: 53, 3, 13, 23, 33, 43, 63, 73, 83, 93, 103, 113, 123, or 133 and/or at least 2 of the CDRs contained in the V_L polypeptide having the amino acid sequence set forth in SEQ ID NO: 51, 1, 11, 21, 31, 41, 61, 71, 81, 91, 101, 111, 121 or 131; or

(ix) all 3 of the CDRs contained in the V_H polypeptide having the amino acid sequence set forth in SEQ ID NO: 53, 3, 13, 23, 33, 43, 63, 73, 83, 93, 103, 113, 123, or 133 and/or all 3 of the CDRs contained in the V_L polypeptide having the amino acid sequence set forth in SEQ ID NO: 51, 1, 11, 21, 31, 41, 61, 71, 81, 91, 101, 111, 121 or 131.

4.) The isolated anti-human CGRP antibody or antibody fragment according to claim 1, wherein said anti-human CGRP antibody or antibody fragment comprises:

(i) a variable light chain comprising a VL CDR1 of SEQ ID NO:55, a VL CDR2 of SEQ ID NO:56, a VL CDR3 of SEQ ID NO:57; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:58, a VH CDR2 of SEQ ID NO:59 and a VH CDR3 of SEQ ID NO:60;

(ii) a variable light chain comprising a VL CDR1 of SEQ ID NO:5, a VL CDR2 of SEQ ID NO:6, a VL CDR3 of SEQ ID NO:7; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:8, a VH CDR2 of SEQ ID NO:9 and a VH CDR3 of SEQ ID NO:10;

(iii) a variable light chain comprising a VL CDR1 of SEQ ID NO:15, a VL CDR2 of SEQ ID NO:16, a VL CDR3 of SEQ ID NO:17; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:18, a VH CDR2 of SEQ ID NO:19 and a VH CDR3 of SEQ ID NO:20;

(iv) a variable light chain comprising a VL CDR1 of SEQ ID NO:25, a VL CDR2 of SEQ ID NO:26, a VL CDR3 of SEQ ID NO:27; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:28, a VH CDR2 of SEQ ID NO:29 and a VH CDR3 of SEQ ID NO:30;

(v) a variable light chain comprising a VL CDR1 of SEQ ID NO:35, a VL CDR2 of SEQ ID NO:36, a VL CDR3 of SEQ ID NO:37; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:38, a VH CDR2 of SEQ ID NO:39 and a VH CDR3 of SEQ ID NO:40;

(vi) a variable light chain comprising a VL CDR1 of SEQ ID NO:45, a VL CDR2 of SEQ ID NO:46, a VL CDR3 of SEQ ID NO:47; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:48, a VH CDR2 of SEQ ID NO:49 and a VH CDR3 of SEQ ID NO:50;

(vii) a variable light chain comprising a VL CDR1 of SEQ ID NO:65, a VL CDR2 of SEQ ID NO:66, a VL CDR3 of SEQ ID NO:67; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:68, a VH CDR2 of SEQ ID NO:69 and a VH CDR3 of SEQ ID NO:70;

(viii) a variable light chain comprising a VL CDR1 of SEQ ID NO:75, a VL CDR2 of SEQ ID NO:76, a VL CDR3 of SEQ ID NO:77; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:78, a VH CDR2 of SEQ ID NO:79 and a VH CDR3 of SEQ ID NO:80;

(ix) a variable light chain comprising a VL CDR1 of SEQ ID NO:85, a VL CDR2 of SEQ ID NO:86, a VL CDR3 of SEQ ID NO:87; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:88, a VH CDR2 of SEQ ID NO:89 and a VH CDR3 of SEQ ID NO:90;

(x) a variable light chain comprising a VL CDR1 of SEQ ID NO:95, a VL CDR2 of SEQ ID NO:96, a VL CDR3 of SEQ ID NO:97; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:98, a VH CDR2 of SEQ ID NO:99 and a VH CDR3 of SEQ ID NO:100;

(xi) a variable light chain comprising a VL CDR1 of SEQ ID NO:105, a VL CDR2 of SEQ ID NO:106, a VL CDR3 of SEQ ID NO:107; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:108, a VH CDR2 of SEQ ID NO:109 and a VH CDR3 of SEQ ID NO:110;

(xii) a variable light chain comprising a VL CDR1 of SEQ ID NO:115, a VL CDR2 of SEQ ID NO:116, a VL CDR3 of SEQ ID NO:117; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:118, a VH CDR2 of SEQ ID NO:119 and a VH CDR3 of SEQ ID NO:120;

(xiii) a variable light chain comprising a VL CDR1 of SEQ ID NO:125, a VL CDR2 of SEQ ID NO:126, a VL CDR3 of SEQ ID NO:127; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:128, a VH CDR2 of SEQ ID NO:129 and a VH CDR3 of SEQ ID NO:130;

(xiv) a variable light chain comprising a VL CDR1 of SEQ ID NO:135, a VL CDR2 of SEQ ID NO:136, a VL CDR3 of SEQ ID NO:137; and a variable heavy chain comprising a VH CDR1 of SEQ ID NO:138, a VH CDR2 of SEQ ID NO:139 and a VH CDR3 of SEQ ID NO:140;

(xv) a variable light chain having the amino acid sequence set forth in SEQ ID NO:51 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:53;

(xvi) a variable light chain having the amino acid sequence set forth in SEQ ID NO:1 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:3;

(xvii) a variable light chain having the amino acid sequence set forth in SEQ ID NO:11 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:13;

(xviii) a variable light chain having the amino acid sequence set forth in SEQ ID NO:21 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:23;

(xix) a variable light chain having the amino acid sequence set forth in SEQ ID NO:31 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:33;

(xx) a variable light chain having the amino acid sequence set forth in SEQ ID NO:41 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:43;

(xxi) a variable light chain having the amino acid sequence set forth in SEQ ID NO:61 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:63;

(xxii) a variable light chain having the amino acid sequence set forth in SEQ ID NO:71 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:73;

(xxiii) a variable light chain having the amino acid sequence set forth in SEQ ID NO:81 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:83;

(xxiv) a variable light chain having the amino acid sequence set forth in SEQ ID NO:91 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:93;

(xxv) a variable light chain having the amino acid sequence set forth in SEQ ID NO:101 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:103;

(xxvi) a variable light chain having the amino acid sequence set forth in SEQ ID NO:111 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:113;

(xxvii) a variable light chain having the amino acid sequence set forth in SEQ ID NO:121 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:123;

(xxviii) a variable light chain having the amino acid sequence set forth in SEQ ID NO:131 and a variable heavy chain having the amino acid sequence set forth in SEQ ID NO:133;

(xxix) a light chain having the amino acid sequence set forth in SEQ ID NO:52 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:54;

(xxx) a light chain having the amino acid sequence set forth in SEQ ID NO:2 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:4;

(xxxi) a light chain having the amino acid sequence set forth in SEQ ID NO:12 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:14;

(xxxii) a light chain having the amino acid sequence set forth in SEQ ID NO:22 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:24;

(xxxiii) a light chain having the amino acid sequence set forth in SEQ ID NO:32 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:34;

(xxxiv) a light chain having the amino acid sequence set forth in SEQ ID NO:42 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:44;

(xxxv) a light chain having the amino acid sequence set forth in SEQ ID NO:62 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:64;

(xxxvi) a light chain having the amino acid sequence set forth in SEQ ID NO:72 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:74;

(xxxvii) a light chain having the amino acid sequence set forth in SEQ ID NO:82 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:84;

(xxxviii) a light chain having the amino acid sequence set forth in SEQ ID NO:92 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:94;

(xxxix) a light chain having the amino acid sequence set forth in SEQ ID NO:102 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:104;

(xl) a light chain having the amino acid sequence set forth in SEQ ID NO:112 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:114;

(xli) a light chain having the amino acid sequence set forth in SEQ ID NO:122 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:124; or

(xlii) a light chain having the amino acid sequence set forth in SEQ ID NO:132 and a heavy chain having the amino acid sequence set forth in SEQ ID NO:134.

5.) The isolated anti-human CGRP antibody or antibody fragment according to any one of claims 1 to 4, which:

(i) is aglycosylated;

(ii) is glycosylated, but only contains only mannose residues;

(iii) is not N-glycosylated;

(iv) contains an Fc region that has been modified to alter effector function, half-life, proteolysis, and/or glycosylation;

(v) is a humanized antibody, a chimeric antibody, a single chain antibody or a monovalent antibody;

(vi) is an antibody fragment selected from a Fab fragment, a Fab' fragment, a F(ab')2 fragment, or a monovalent antibody such as "metMab".

(vii) is directly or indirectly attached to a detectable label or therapeutic agent;

(viii) binds to CGRP with an off-rate (K_{off}) of less than or equal to 10^{-4} S^{-1}, $5x10^{-5}$ S^{-1}, 10^{-5} S^{-1}, $5x10^{-6}$ S^{-1}, 10^{-6} S^{-1}, $5x10^{-7}$ S^{-1}, or 10^{-7} S^{-1};

(ix) inhibits the association of CGRP with a CGRP-R and/or multimers thereof, one or more additional proteins in a CGRP-CGRP-R complex, and/or antagonizes the biological effects thereof;

(x) further comprises an effector moiety that is a detectable moiety or a functional moiety, wherein said detectable moiety is optionally a fluorescent dye, an enzyme, a substrate, a

bioluminescent material, a radioactive material, or a chemiluminescent material and said functional moiety optionally is streptavidin, avidin, biotin, a cytotoxin, a cytotoxic agent, or a radioactive material; and/or

(xi) comprises a human F_c that is derived from IgG1, IgG2, IgG3, or IgG4.

6.) The isolated anti-human CGRP antibody or antibody fragment according to any one of claims 1 to 5, which specifically binds to CGRP expressing human cells and/or binds to circulating soluble CGRP molecules in vivo and/or specifically binds to CGRP expressed on or by human cells in a patient with a disease associated with cells that bind CGRP, wherein the disease is selected from migraine (with or without aura), a condition with CGRP-associated pain, weight loss, cancer or tumors, overactive bladder, urinary incontinence, pruritis, psoriasis, ulcer, a cardiac condition, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, migraines, chronic migraines, frequent episodic migraines, menstrual migraines, hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysomal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis), allergy-induced headaches or migraines, pain, TMJ, temporomandibular jaw disorders, inflammatory pain, visceral pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, post-herpetic neuralgia, phantom limb pain, fibromyalgia, menstrual pain, ovarialgia, reflex sympathetic dystrophy, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, and pancreatitis; preferably wherein the disease is selected from pain, visceral pain, TMJ, temporomandibular jaw disorders, headache, overactive bladder, urinary incontinence, cluster headache and migraine; more preferably, wherein the disease is migraine selected from

migraine with or without aura, chronic migraine, frequent episodic migraines, or menstrual migraines.

7.) A nucleic acid sequence or nucleic acid sequences encoding the anti-human CGRP antibody or antibody fragment of any one of claims 1 to 6, wherein the nucleic acid sequence or sequences are optionally comprised of yeast or human preferred codons.

8.) A vector comprising the nucleic acid sequence or sequences of claim 7, wherein the vector is optionally a plasmid or recombinant viral vector.

9.) A cultured or recombinant cell that expresses an antibody or antibody fragment encoded by the nucleic acid sequence or sequences of claim 7 and/or the vector of claim 8, wherein the cell is optionally selected from a yeast, mammalian, bacterial, fungal, or insect cell, wherein preferably the cell is a diploidal yeast cell such as a Pichia yeast.

10.) An anti-human CGRP antibody or antibody fragment of any one of claims 1 to 6 for use in the treatment of a disease or condition treatable by the administration of a therapeutically effective amount of a CGRP antagonist and/or ameliorating or reducing symptoms of a disease or condition treatable by the administration of a CGRP antagonist, wherein the disease or condition is associated with CGRP expressing cells, preferably cells with increased CGRP expression, which is optionally selected from migraine (with or without aura), weight loss, cancer or tumors, angiogenesis associated with cancer or tumor growth, angiogenesis associated with cancer or tumor survival, migraine, chronic migraine, frequent episodic migraines, menstrual migraines, hemiplagic migraines, cluster headaches, migrainous neuralgia, chronic headaches, tension headaches, general headaches, hot flushes, chronic paroxysomal hemicrania, secondary headaches due to an underlying structural problem in the head or neck, cranial neuralgia, sinus headaches (such as for example associated with sinusitis), allergy-induced headaches or migraines, pain, inflammatory pain, post-operative incision pain, complex regional pain syndrome, cancer pain, primary or metastatic bone cancer pain, fracture pain, osteoporotic fracture pain, pain resulting from burn, osteoporosis, gout joint pain, pain associated with sickle cell crises, hepatocellular carcinoma, breast cancer, liver cirrhosis, neurogenic pain, neuropathic pain, nociceptic pain, trigeminal neuralgia, postherpetic neuralgia, phantom limb pain,

fibromyalgia, ovarialgia, reflex sympathetic dystrophy, neurogenic pain, osteoarthritis or rheumatoid arthritis pain, lower back pain, diabetic neuropathy, sciatica, or visceral pain associated with gastro-esophageal reflux, dyspepsia, irritable bowel syndrome, inflammatory bowel disease, Crohn's disease, ileitis, ulcerative colitis, renal colic, dysmenorrhea, cystitis, menstrual period, labor, menopause, prostatitis, or pancreatitis, wherein the disease is preferably selected from overactive bladder; urinary incontinence; pain; chronic pain; neurogenic inflammation and inflammatory pain; neuropathic pain; eye pain; tooth pain; post-surgical pain, trauma related pain, diabetes; non-insulin dependent diabetes mellitus and other inflammatory autoimmune disorders, vascular disorders; inflammation; arthritis; bronchial hyperreactivity, asthma; shock; sepsis; opiate withdrawal syndrome; morphine tolerance; hot flashes in men and women; allergic dermatitis; psoriasis; encephalitis; brain trauma; epilepsy; neurodegenerative diseases; skin diseases, pruritis, neurogenic cutaneous redness, skin rosaceousness and erythema; inflammatory bowel disease, irritable bowel syndrome, cystitis; and dysmennorhea, wherein the disease is more preferably selected from pain, overactive bladder, urinary incontinence, headache or migraine.

11.) The antibody of claim 10, which is to be administered with another therapeutic agent selected from an analgesic, an anti-histamine, an anti-inflammatory agent, an antibiotic, a chemotherapeutic, an immunosuppressant, a cytokine, an anti-proliferative, an antiemetic or a cytotoxin,

wherein the analgesic is optionally an NSAID, an opioid analgesic, an antibody or antibody fragment, or a non-antibody biologic,

wherein the NSAID is preferably selected from a cyclooxygenase 1 and/or cyclooxygenase 2 inhibitor; propionic acid derivatives including ibuprofen, naproxen, naprosyn, diclofenac, and ketoprofen; acetic acid derivatives including tolmetin and slindac; fenamic acid derivatives including mefenamic acid and meclofenamic acid; biphenylcarboxylic acid derivatives including diflunisal and flufenisal; and oxicams including piroxim, sudoxicam, and isoxicam,

wherein the analgesic is preferably selected from a phenanthrene; a phenylheptylamine; a phenylpiperidine; a morphinan; and a benzomorphan compound,

wherein the opioid analgesic is preferably selected from codeine, dihydrocodeine, diacetylmorphine, hydrocodone, hydromorphone, levorphanol, oxymorphone, alfentanil, buprenorphine, butorphanol, fentanyl, sufentanyl, meperidine, methadone, nalbuphine, propoxyphene, pentazocine or pharmaceutically acceptable salts thereof, and morphine or a morphine derivative or pharmaceutically acceptable salts thereof, and

wherein the antibody or antibody fragment is perferably a NGF antibody or antibody fragment.

12.) A method of in vivo imaging that detects the presence of cells expressing CGRP comprising administering a diagnostically effective amount of at least one anti-human CGRP antibody or antibody fragment according to any one of claims 1 to 6, wherein said administration optionally further includes the administration of a radionuclide or fluorophore that facilitates detection of the antibody at CGRP expressing disease sites and wherein the results are optionally used to facilitate design of an appropriate therapeutic regimen.

13.) A method of making the antibody or antibody fragment of any one of claims 1 to 6 in a polyploid yeast culture that stably expresses and secretes into the culture medium at least 10-25 mg/liter of said antibody, comprising:

(i) introducing at least one expression vector containing one or more heterologous polynucleotides encoding said antibody operably linked to a promoter and a signal sequence into a haploid yeast cell;

(ii) producing by mating or spheroplast fusion a polyploidal yeast from said first and/or second haploid yeast cell;

(iii) selecting polyploidal yeast cells that stably express said antibody; and

(iv) producing stable polyploidal yeast cultures from said polyploidal yeast cells that stably express said antibody into the culture medium,

wherein said yeast is optionally a species of Pichia that is selected from *Pichia pastoris*, *Pichia methanolica* or *Hansenula polymorpha* (*Pichia angusta*), wherein the species of Pichia is preferably *Pichia pastoris*.

14.) The method of claim 13, wherein said heterologous polynucleotide comprises a sequence encoding the polypeptides contained in SEQ ID NO:51 and SEQ ID NO:53; SEQ ID NO:1 and SEQ ID NO:3; SEQ ID NO:11 and SEQ ID NO:13; SEQ ID NO:21 and SEQ ID NO:23; SEQ ID NO:31 and SEQ ID NO:33; SEQ ID NO:41 and SEQ ID NO:43; SEQ ID NO:61 and SEQ ID NO:63; SEQ ID NO:71 and SEQ ID NO:73; SEQ ID NO:81 and SEQ ID NO:83; SEQ ID NO:91 and SEQ ID NO:93; SEQ ID NO:101 and SEQ ID NO:103; SEQ ID NO:111 and SEQ ID NO:113; SEQ ID NO:121 and SEQ ID NO:123; or SEQ ID NO:131 and SEQ ID NO:133.

15.) A pharmaceutical or diagnostic composition containing at least one anti-human CGRP antibody or fragment according to any one of claims 1 to 6 and a pharmaceutically acceptable carrier, wherein said composition optionally further comprises at least one stabilizer and is optionally lyophilized.