[Claims]

[Claim 1]

A peptide represented by formula (I):

P^1-Tyr-A2-Glu-Gly-Thr-A6-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-A22-A23-A24-A25-A26-A27-A28-A29-A30-A31-A32-A33-A34-A35-A36-A37-A38-A39-A40-P^2 (SEQ ID NO: 165)

wherein

P^1 represents

$-R^{A1}$,or

$-CO-R^{A1}$,

wherein R^{A1} represents a hydrogen atom, or a C_{1-6} alkyl group;

P^2 represents $-NH_2$ or -OH;

A2 represents Aib or D-Ala;

A6 represents Iva, Phe, or Val;

A7 represents Ile, Lys, or Val;

A8 represents Ser;

A9 represents Asp, Leu, or Phe;

A10 represents Tyr;

A11 represents Aib or Ser;

A12 represents Ile;

A13 represents Aib, Ala, Gln, Leu, Tyr, or D-Iva;

A14 represents Leu;

A15 represents Asp, Glu, Lys, Ser, or Tyr;

A16 represents Arg or Lys;

A17 represents Aib, Gln, or Ile;

A18 represents Ala or His;

A19 represents Gln or Ser;

A20 represents Aib, Ala, or Gln;

A21 represents Asn, Asp, Glu, Leu, or Ser;

A22 represents Phe or αMePhe;

A23 represents Ile or Val;

A24 represents Arg, Asn, Asp, Lys, or Lys(Ac);

A25 represents Trp;

A26 represents Aib, Iva, or Leu;

A27 represents Leu;

A28 represents Ala, Arg, Lys, or Lys(Ac);

A29 represents Gln or Gly;

A30 represents Arg, Gly, or a deletion;

A31 represents Pro or a deletion;

A32 represents Ser or a deletion;

A33 represents Ser or a deletion;

A34 represents Gly or a deletion;

A35 represents Ala or a deletion;

A36 represents Pro or a deletion;

A37 represents Pro or a deletion;

A38 represents Pro or a deletion;

A39 represents Lys, Ser, or a deletion;

A40 represents Arg, Lys, or a deletion; and

one or two amino acids selected from A12, A14 and A17 optionally represent Lys(R), and R represents X-L-, wherein X-L- represents Trda-GGGG-, Trda-GGGGG-, Trda-GGGGGG-, Teda-GGGG-, Teda-GGGGG-, Teda-GGGGGG-, Peda-GGGG-, Peda-GGGGG-, Peda-GGGGGG-, Heda-GGGG-, Heda-GGGGG-, Heda-GGGGGG-, Hepda-GGGG-, Hepda-GGGGG-, Hepda-GGGGGG-, Oda-GGGG-, Oda-GGGGG-, Oda-GGGGGG-, Eda-GGGG-, Eda-GGGGG-, Eda-GGGGGG-, Eda-GGGGGGGGG-;

provided that where all A31 to A40 represent deletions, then A2 represents Aib,

or a salt thereof.

[Claim 2]

The peptide according to claim 1 represented by formula (II):

P^1-Tyr-A2-Glu-Gly-Thr-A6-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-A22-A23-A24-A25-A26-A27-A28-A29-A30-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-A39-A40-P^2 (SEQ ID NO: 166)

wherein

A2 represents Aib or D-Ala;

A6 represents Iva, Phe, or Val;

A7 represents Ile, Lys, or Val;

A8 represents Ser;

A9 represents Asp, Leu, or Phe;

A10 represents Tyr;

A11 represents Aib or Ser;

A12 represents Ile;

A13 represents Aib, Ala, Gln, Leu, Tyr, or D-Iva;

A14 represents Leu;

A15 represents Asp, Glu, Lys, Ser, or Tyr;

A16 represents Arg or Lys;

A17 represents Aib, Gln, or Ile;

A18 represents Ala or His;

A19 represents Gln or Ser;

A20 represents Aib, Ala, or Gln;

A21 represents Asn, Asp, Glu, Leu or Ser;

A22 represents Phe or αMePhe;

A23 represents Ile or Val;

A24 represents Arg, Asn, Asp, Lys, or Lys(Ac);

A25 represents Trp;

A26 represents Aib, Iva, or Leu;

A27 represents Leu;

A28 represents Ala, Arg, Lys, or Lys(Ac);

A29 represents Gln or Gly;

A30 represents Arg or Gly;

A39 represents Lys or Ser; and

A40 represents Arg, Lys, or a deletion;

or a salt thereof.

[Claim 3]

The peptide according to claim 1 represented by formula (III):

P^1-Tyr-A2-Glu-Gly-Thr-Val-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-A22-A23-A24-A25-A26-A27-A28-A29-A30-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-A39-A40-P^2 (SEQ ID NO: 167)

wherein

A2 represents Aib or D-Ala;

A7 represents Ile, Lys, or Val;

A8 represents Ser;

A9 represents Asp, Leu, or Phe;

A10 represents Tyr;

A11 represents Ser;

A12 represents Ile;

A13 represents Aib, Ala, Gln, Leu, or Tyr;

A14 represents Leu;

A15 represents Asp, Glu, Lys, Ser, or Tyr;

A16 represents Lys;

A17 represents Gln or Ile;

A18 represents Ala or His;

A19 represents Gln or Ser;

A20 represents Aib or Gln;

A21 represents Glu or Leu;

A22 represents Phe;

A23 represents Ile or Val;

A24 represents Lys or Lys(Ac);

A25 represents Trp;

A26 represents Aib or Leu;

A27 represents Leu;

A28 represents Lys or Lys(Ac);

A29 represents Gly;

A30 represents Gly;

A39 represents Lys or Ser; and

A40 represents Lys or a deletion;

or a salt thereof.

[Claim 4]

The peptide according to claim 1 represented by formula (IV):

P^1-Tyr-Aib-Glu-Gly-Thr-A6-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-A22-A23-A24-A25-A26-A27-A28-A29-A30-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-A40-P^2 (SEQ ID NO: 168)

wherein

A6 represents Iva, Phe, or Val;

A7 represents Ile or Val;

A8 represents Ser;

A9 represents Asp or Leu;

A10 represents Tyr;

A11 represents Aib or Ser;

A12 represents Ile;

A13 represents Aib, Ala, or D-Iva;

A14 represents Leu;

A15 represents Asp;

A16 represents Arg;

A17 represents Aib, Gln, or Ile;

A18 represents Ala or His;

A19 represents Gln;

A20 represents Aib, Ala, or Gln;

A21 represents Glu, Asn, Asp, or Ser;

A22 represents Phe or αMePhe;

A23 represents Val;

A24 represents Arg, Asn or Asp;

A25 represents Trp;

A26 represents Leu or Iva;

A27 represents Leu;

A28 represents Ala or Arg;

A29 represents Gln or Gly;

A30 represents Arg or Gly; and

A40 represents Arg or a deletion;

or a salt thereof.

[Claim 5]

The peptide according to claim 1 represented by formula (V):

P^1-Tyr-Aib-Glu-Gly-Thr-A6-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-A22-A23-A24-A25-A26-A27-A28-A29-A30-A31-A32-A33-A34-A35-A36-A37-A38-A39-A40-P^2 (SEQ ID NO: 169)

wherein

A6 represents Iva, Phe, or Val;

A7 represents Ile, Lys, or Val;

A8 represents Ser;

A9 represents Asp, Leu, or Phe;

A10 represents Tyr;

A11 represents Aib or Ser;

A12 represents Ile;

A13 represents Aib, Ala, Gln, Leu, Tyr, or D-Iva;

A14 represents Leu;

A15 represents Asp, Glu, Lys, Ser, or Tyr;

A16 represents Arg or Lys;

A17 represents Aib, Gln, or Ile;

A18 represents Ala or His;

A19 represents Gln or Ser;

A20 represents Aib, Ala, or Gln;

A21 represents Asn, Asp, Glu, Leu, or Ser;

A22 represents Phe or αMePhe;

A23 represents Ile or Val;

A24 represents Arg, Asn, Lys, or Lys(Ac);

A25 represents Trp;

A26 represents Aib, Iva, or Leu;

A27 represents Leu;

A28 represents Ala, Arg, Lys, or Lys(Ac);

A29 represents Gln or Gly;

A30 represents Arg, Gly or a deletion; and

A31 to A40 represent a deletion;

or a salt thereof.

[Claim 6]

The peptide according to claim 1 represented by formula (VI):

P^1-Tyr-Aib-Glu-Gly-Thr-A6-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-A22-A23-A24-A25-A26-A27-A28-A29-A30-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-A40-P^2 (SEQ ID NO: 170)

wherein

A6 represents Iva, Phe, or Val;

A7 represents Ile or Val;

A8 represents Ser;

A9 represents Asp or Leu;

A10 represents Tyr;

A11 represents Ser;

A12 represents Ile;

A13 represents Aib or Ala;

A14 represents Leu;

A15 represents Asp;

A16 represents Arg or Lys;

A17 represents Aib, Gln, or Ile;

A18 represents Ala or His;

A19 represents Gln;

A20 represents Aib or Gln;

A21 represents Asn, Glu, or Asp;

A22 represents Phe;

A23 represents Val;

A24 represents Arg, Asn, or Lys;

A25 represents Trp;

A26 represents Iva or Leu;

A27 represents Leu;

A28 represents Ala, Arg, or Lys;

A29 represents Gln or Gly;

A30 represents Arg or Gly; and

A40 represents Arg, Lys, or a deletion;

or a salt thereof.

[Claim 7]

The peptide according to claim 1 represented by formula (I):

P^1-Tyr-A2-Glu-Gly-Thr-A6-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-A22-A23-A24-A25-A26-A27-A28-A29-A30-A31-A32-A33-A34-A35-A36-A37-A38-A39-A40-P^2

wherein

A2 represents Aib or D-Ala;

A6 represents Iva, Phe, or Val;

A7 represents Ile, Lys, or Val;

A8 represents Ser;

A9 represents Asp, Leu, or Phe;

A10 represents Tyr;

A11 represents Aib or Ser;

A12 represents Ile;

A13 represents Aib, Ala, Gln, Leu, Tyr, or D-Iva;

A14 represents Leu;

A15 represents Asp, Glu, Lys, Ser, or Tyr;

A16 represents Arg or Lys;

A17 represents Aib, Gln, or Ile;

A18 represents Ala or His;

A19 represents Gln or Ser;

A20 represents Aib, Ala, or Gln;

A21 represents Asn, Asp, Glu, Leu, or Ser;

A22 represents Phe or αMePhe;

A23 represents Ile or Val;

A24 represents Arg, Asn, Asp, Lys, or Lys(Ac);

A25 represents Trp;

A26 represents Aib, Iva, or Leu;

A27 represents Leu;

A28 represents Ala, Arg, Lys, or Lys(Ac);

A29 represents Gln or Gly;

A30 represents Arg, Gly, or a deletion;

A31 represents Pro or a deletion;

A32 represents Ser or a deletion;

A33 represents Ser or a deletion;

A34 represents Gly or a deletion;

A35 represents Ala or a deletion;

A36 represents Pro or a deletion;

A37 represents Pro or a deletion;

A38 represents Pro or a deletion;

A39 represents Lys, Ser, or a deletion; and

A40 represents Arg, Lys, or a deletion,

or a salt thereof.

[Claim 8]

The peptide according to claim 1 represented by formula: H-Tyr-Aib-Glu-Gly-Thr-Val-Val-Ser-Leu-Tyr-Ser-Ile-Aib-Leu-Asp-Lys-Gln-Ala-Gln-Aib-Glu-Phe-Val-Lys-Trp-

Leu-Leu-Lys-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-Lys-NH_2(SEQ ID NO: 12), or a salt thereof.

[Claim 9]

The peptide according to claim 1 represented by formula: H-Tyr-Aib-Glu-Gly-Thr-Val-Val-Ser-Leu-Tyr-Ser-Ile-Aib-Leu-Asp-Arg-Gln-Ala-Gln-Aib-Glu-Phe-Val-Arg-Trp-Leu-Leu-Arg-Gly-Gly-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-Arg-NH_2 (SEQ ID NO: 36), or a salt thereof.

[Claim 10]

The peptide according to claim 1 represented by formula: Me-Tyr-Aib-Glu-Gly-Thr-Phe-Ile-Ser-Asp-Tyr-Ser-Ile-Ala-Leu-Asp-Arg-Ile-Ala-Gln-Gln-Asp-Phe-Val-Asn-Trp-Leu-Leu-Ala-Gln-Arg-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-Arg-NH_2(SEQ ID NO: 65), or a salt thereof.

[Claim 11]

The peptide according to claim 1 represented by formula: Me-Tyr-Aib-Glu-Gly-Thr-Iva-Ile-Ser-Asp-Tyr-Ser-Ile-Ala-Leu-Asp-Arg-Aib-Ala-Gln-Aib-Asn-Phe-Val-Asn-Trp-Leu-Leu-Ala-Gln-Arg-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-Arg-NH_2(SEQ ID NO: 110), or a salt thereof.

[Claim 12]

The peptide according to claim 1 represented by formula: Me-Tyr-Aib-Glu-Gly-Thr-Iva-Ile-Ser-Asp-Tyr-Ser-Ile-Aib-Leu-Asp-Arg-Aib-Ala-Gln-Aib-Asn-Phe-Val-Asn-Trp-

Iva-Leu-Ala-Gln-Arg-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-Arg-NH_2(SEQ ID NO: 119), or a salt thereof.

[Claim 13]

The peptide according to claim 1 represented by formula: Me-Tyr-Aib-Glu-Gly-Thr-Phe-Ile-Ser-Asp-Tyr-Ser-Ile-Ala-Leu-Asp-Arg-Aib-His-Gln-Aib-Asn-Phe-Val-Asn-Trp-Iva-Leu-Ala-Gln-Arg-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-Arg-NH_2(SEQ ID NO: 123), or a salt thereof.

[Claim 14]

The peptide according to claim 1 represented by formula: Me-Tyr-Aib-Glu-Gly-Thr-Iva-Ile-Ser-Asp-Tyr-Ser-Ile-Aib-Lys(Eda-GGGGG-)-Asp-Arg-Aib-Ala-Gln-Aib-Asn-Phe-Val-Asn-Trp-Iva-Leu-Ala-Gln-Arg-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH_2(SEQ ID NO: 354), or a salt thereof.

[Claim 15]

The peptide according to claim 1 represented by formula: Me-Tyr-Aib-Glu-Gly-Thr-Iva-Ile-Ser-Asp-Tyr-Ser-Ile-Aib-Leu-Asp-Arg-Lys(Oda-GGGGG-)-Ala-Gln-Aib-Asn-Phe-Val-Asn-Trp-Iva-Leu-Ala-Gln-Arg-Pro-Ser-Ser-Gly-Ala-Pro-Pro-Pro-Ser-NH_2(SEQ ID NO: 362), or a salt thereof.

[Claim 16]

A medicament comprising the peptide according to claim 1, or a salt thereof.

[Claim 17]

The medicament according to claim 19, which is an activator of a GIP receptor.

[Claim 18]

The medicament according to claim 19, which is a suppressant for vomiting or nausea.

[Claim 19]

Use of the peptide of claim 1 or a salt thereof for the manufacture of a suppressant for vomiting or nausea.

[Claim 20]

The peptide of claim 1 or a salt thereof for use in suppressing vomiting or nausea.

[Claim 21]

The use according to claim 19, or the peptide according to claim 20, where the vomiting or the nausea is caused by one or more conditions or causes selected from the following (1) to (6):

(1) diseases such as gastroparesis, gastrointestinal hypomotility, peritonitis, abdominal tumor, constipation, gastrointestinal obstruction, cyclic vomiting syndrome, chronic unexplained nausea and vomiting, acute and chronic pancreatitis, hyperkalemia, cerebral edema, intracranial lesion, metabolic disorder, gastritis caused by an infection, postoperative disease, myocardial

infarction, migraine, intracranial hypertension, and intracranial hypotension (e.g., altitude sickness);

(2) drugs such as (i) alkylating agents (e.g., cyclophosphamide, carmustine, lomustine, chlorambucil, streptozocin, dacarbazine, ifosfamide, temozolomide, busulfan, bendamustine, and melphalan), cytotoxic antibiotics (e.g., dactinomycin, doxorubicin, mitomycin-C, bleomycin, epirubicin, actinomycin D, amrubicin, idarubicin, daunorubicin, and pirarubicin), antimetabolic agents (e.g., cytarabine, methotrexate, 5-fluorouracil, enocitabine, and clofarabine), vinca alkaloids (e.g., etoposide, vinblastine, and vincristine), other chemotherapeutic agents such as cisplatin, procarbazine, hydroxyurea, azacytidine, irinotecan, interferon α, interleukin-2, oxaliplatin, carboplatin, nedaplatin, and miriplatin; (ii) opioid analgesics (e.g., morphine); (iii) dopamine receptor D1D2 agonists (e.g., apomorphine); (iv) cannabis and cannabinoid products including cannabis hyperemesis syndrome

(3) radiation sickness or radiation therapy for the chest, the abdomen, or the like used to treat cancers;

(4) a poisonous substance or a toxin;

(5) pregnancy including hyperemesis gravidarium; and

(6) a vestibular disorder such as motion sickness or dizziness.