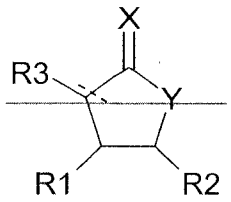
CLAIMS

1. A method for isolating an antagonist of hTAS2R14 or hTAS2R4 bitter taste receptor activity, wherein the bitter taste receptor is encoded by a polynucleotide selected from the group consisting of:
   (a) polynucleotide encoding at least the mature form of the polypeptide having the amino acid sequence as shown in SEQ ID NO: 2 or 6;
   (b) polynucleotide having the coding nucleotide sequence as shown in SEQ ID NO: 1 or 5 encoding at least the mature form of the polypeptide;
   (c) polynucleotide encoding a fragment or derivative of a polypeptide encoded by a polynucleotide of any one of (a) to (b), wherein in said derivative one or more amino acid residues are conservatively substituted compared to said polypeptide, and said fragment or derivative has hTAS2R14 and hTAS2R4 bitter taste receptor activity, respectively;
   (d) polynucleotide which is an ortholog of the polynucleotide sequences shown in SEQ ID NO: 1or 5 encoding at least the mature form of the corresponding bitter taste receptor;
   (e) polynucleotide which encodes a polypeptide having hTAS2R14 or hTAS2R4 bitter taste receptor activity, and where said polypeptide is at least 80% identical to a polypeptide as shown in SEQ ID NO: 2 and 6, respectively;

   comprising the steps:
   (1) contacting a bitter taste receptor encoded by said polynucleotide or a host cell genetically engineered with said polynucleotide or with a vector containing said polynucleotide to express said bitter taste receptor with a potential antagonist; and
   (2) determining whether the potential antagonist inhibits the bitter taste receptor activity,

wherein prior, concomitantly and/or after step (1) said bitter taste receptor or said host cell is contacted with an agonist selected from the group consisting of absinthin, artemorin, arborescin, arglabin, azathioprine, azepinon, benzoin, brucine, camphor, chlorhexidine, N,N'-diethylthiourea, herbolid A, isohumulone, noscapine, or parthenolid agonistic derivatives ~~or structurally related agonists~~ thereof for hTAS2R14 ~~that has a structure according to formula (I)~~



(I)

wherein

R^1 and R^2 together form a cycloalkyl, heterocycloalkyl, an alicyclic system, aryl, or heteroaryl, optionally substituted;

R^3 is H, OH, alkyl, alkenyl, alkoxy, alkoxyalkyl, cycloalkyl, heterocycloalkyl, alicyclic system, aryl, or heteroaryl; optionally substituted;

X is O or S;

Y is O or NH or S; and

the dashed bond is present or not

or selected from the group consisting of artemorin, amarogentin, azathioprine or camphor and agonistic derivatives ~~or structurally related agonists~~ thereof for hTAS2R4.

2. The method of claim 1 wherein the potential antagonist of step (1) is a compound structurally related to absinthin, artemorin, amarogentin, arglabin, azathioprine, azepinon, benzoin, brucine, camphor, cascarillin, chlorhexidine, N,N'-diethylthiourea, herbolid A, isohumulone, noscapine, papaverin, parthenolid, picrotoxinin, arborescin or (-)-a-thujon.

8. A method for the production of a modified antagonist of hTAS2R14 or hTAS2R4, wherein comprising the steps of identifying an antagonist identified in aby the method according to claims 1, 2 or 3 to 6 is modifiedand modifying the antagonist by the addition or exchange of at least one substituent.

9. The method according to claim 8, wherein a modified antagonist is selected that reduces the activity of hTAS2R14 or hTAS2R4 stimulated by absinthin, artemorin, arglabin, azathioprine, azepinon, benzoin, brucine, camphor, chlorhexidine, N,N'-diethylthiourea, herbolid A, isohumulone, noscapine, or, parthenolid for hTAS2R14 or by artemorin, amarogentin, azathioprine or campor for hTAS2R4 at least as good as the identified antagonist at the same molar concentration.

10. A method for the production of food, a food precursor material or additive employed in the production of foodstuff comprising the step of isolating an antagonist by the method of claims 1 to 7 or producing a modified antagonist by the method of claims 8 to 9 and admixing the antagonist or modified antagonist, respectively, isolated by the method of claims 1 to 7 or the modified antagonist produced according to the method of claims 8 to 9 with foodstuff, a food precursor material or additive employed in the production of foodstuff.

11. A method for the production of a nutraceutical or pharmaceutical composition comprising the step of isolating an antagonist by the method of claims 1, 2, 3 to 6, or 7, or producing a modified antagonist by the method of claims 8 to 9 and admixing the antagonist or modified antagonist, respectively, isolated by the method of claims 1, 2, 3 to 6, or 7, or the modified antagonist produced according to the method of claims 8 or 9 with an active agent and optionally with pharmaceutically acceptable carrier and/or adjuvants, in a pharmaceutically acceptable form.

12. A foodstuff, any foodstuff precursor material or additive employed in the production of foodstuff producible according to claim 10.

13. A nutraceutical or pharmaceutical composition producible according to claim 11, comprising at least one nutraceutically or pharmaceutically active agent, an optional pharmaceutically acceptable carrier and/or adjuvants.

14. Use of a bitter taste receptor antagonist isolated by the method of claims 1, 2, 3 to 6, or of a modified antagonist producible according to the method of claims 8 or 9 to suppress bitter taste.