Disclosure of the Invention

Problems to be solved by the Invention

As described above, conventionally the sufficient *in vivo* exertion of the physiological effects and pharmacological effects of collagen peptides require intake of as much as 5 g to 10 g thereof. However, long-term high intake of only a specific protein in addition to general meals is difficult and is unfavorable in terms of nutritional science. Also, it is important to cause a collagen peptide to enter the blood not in the form of an amino acid but in the form of an oligopeptide for *in vivo* exertion of physiological effects and pharmacological effects of the collagen peptide after oral intake thereof.

Therefore, an object of the present invention is to elucidate a collagen peptide composed of oligopeptides with ability to enter the blood higher than that of conventional collagen peptides and thus to provide a food or beverage mixed with the collagen peptide.

Summary

In one aspect, there is provided a collagen peptide composition obtained by digesting a collagen or gelatin with subtilisin, chymotrypsin, actinidain, a mixture of subtilisin and bromelain, or a mixture of chymotrypsin and bromelain, which comprises 70% to 100% by weight of peptides with a molecular weight 500 or more to 3000 or less, less than 10% by weight of peptides with a molecular weight of less than 500, and less than 20% by weight of peptides with a molecular weight of more than 3000, based on the total weight of the composition, wherein the ratio of N-terminal glycine residues to total of the N-terminal amino acid residues of the peptides in the composition is 33 mol% or more to 65 mol% or less.

In one aspect, there is provided a food or beverage, which contains the collagen peptide composition as defined above.

In one aspect, there is provided a method for producing a collagen peptide composition, comprising digesting a collagen or gelatin with subtilisin, chymotrypsin, actinidain, a mixture of subtilisin and bromelain, or a mixture of chymotrypsin and bromelain to produce a collagen peptide composition comprising 70% to 100% by weight of peptides with a molecular weight 500 or more to 3000 or less, less than 10% by weight of peptides with a molecular weight of less than 500, and less than 20% by weight of peptides with a molecular weight of more than 3000, based on the total weight of the composition, wherein the ratio of N-terminal glycine residues to total of the N-terminal amino acid residues of the peptides in the composition is 33 mol% or more to 65 mol% or less.

In one aspect, there is provided the use of the collagen peptide composition as defined above in the production of food or beverage.

Means for solving the problems

As a result of intensive studies to achieve the above object, the present inventors have elucidated that a collagen peptide composition having a specific molecular weight distribution and characterized by ratio of N-terminal glycine residues to total of the N-terminal amino acid residues of the peptides in the composition that is within a specific range is excellent in ability to enter the blood when orally ingested. Thus, the present inventors have completed the present invention.

The present invention encompasses the following (1) to (4).

(1) A collagen peptide composition obtainable by digesting a collagen or gelatin

Claims

1. A collagen peptide composition obtainable by digesting a collagen or gelatin with protease, which comprises 70% to 100% by weight of peptides with a molecular weight 500 or more to 3000 or less, less than 10% by weight of peptides with a molecular weight of less than 500, and less than 20% by weight of peptides with a molecular weight of more than 3000, based on the total weight of the composition, wherein the ratio of N-terminal glycine residues to total of the N-terminal amino acid residues of the peptides in the composition is 33 mol% or more to 65 mol% or less.

2. The collagen peptide composition according to claim 1, wherein the protease is serine protease or cysteine protease.

3. The collagen peptide composition according to claim 1 or 2, wherein the collagen or the gelatin is derived from fishes.

4. A food or beverage, which contains the collagen peptide composition according to any one of claims 1 to 3.

CLAIMS:

1. A collagen peptide composition obtained by digesting a collagen or gelatin with subtilisin, chymotrypsin, actinidain, a mixture of subtilisin and bromelain, or a mixture of chymotrypsin and bromelain, which comprises 70% to 100% by weight of peptides with a molecular weight 500 or more to 3000 or less, less than 10% by weight of peptides with a molecular weight of less than 500, and less than 20% by weight of peptides with a molecular weight of more than 3000, based on the total weight of the composition, wherein the ratio of N-terminal glycine residues to total of the N-terminal amino acid residues of the peptides in the composition is 33 mol% or more to 65 mol% or less.

2. The collagen peptide composition according to claim 1, wherein the collagen or the gelatin is derived from fish.

3. A food or beverage, which contains the collagen peptide composition according to claim 1 or 2.

4. A method for producing a collagen peptide composition, comprising digesting a collagen or gelatin with subtilisin, chymotrypsin, actinidain, a mixture of subtilisin and bromelain, or a mixture of chymotrypsin and bromelain to produce a collagen peptide composition comprising 70% to 100% by weight of peptides with a molecular weight 500 or more to 3000 or less, less than 10% by weight of peptides with a molecular weight of less than 500, and less than 20% by weight of peptides with a molecular weight of more than 3000, based on the total weight of the composition, wherein the ratio of N-terminal glycine residues to total of the N-terminal amino acid residues of the peptides in the composition is 33 mol% or more to 65 mol% or less.

5. Use of the collagen peptide composition according to claim 1 in the production of food or beverage.