

DESCRIPTION

TITLE OF INVENTION: ORAL COMPOSITION, AND METHOD FOR
SUPPRESSING BITTERNESS ORIGINATING FROM ERGOTHIONEINE OR
5 SALT THEREOF AND ODOR ORIGINATING FROM CHONDROITIN SULFATE
OR SALT THEREOF

TECHNICAL FIELD

[0001]

10 The present invention relates to an oral composition
containing ergothioneine or a salt thereof and chondroitin
sulfate or a salt thereof. The present invention also
relates to a method for suppressing bitterness derived from
ergothioneine and odor derived from chondroitin sulfate or
15 a salt thereof.

BACKGROUND ART

[0002]

Ergothioneine is one of the hydrophilic sulfur-
20 containing amino acids and is known to have various
physiological activities including an antioxidant ability.
For example, Patent Literature 1 reports physiological
activities of ergothioneine, such as an action that
promotes the immune response activating cytokine
25 production.

Ergothioneine, which has various physiological
activities, has been drawing attention recently for its use
for foods, cosmetics, and pharmaceutical products.

[0003]

30 Chondroitin sulfate is one of the acidic
mucopolysaccharides. In the animal body, chondroitin
sulfate exists as a proteoglycan covalently bound to a
protein that serves as a core, usually called a core
protein. Chondroitin sulfate is present in many animal
35 tissues, such as cartilage, connective tissues such as

skin, and brain tissues, and is abundant particularly in the extracellular matrix of cartilage. Chondroitin sulfate is used in health foods and the like to improve symptoms of osteoarthritis and the like.

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CITATION LIST

- Patent Literature

[0004]

Patent Literature 1: JP 2017-218431 A

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SUMMARY OF INVENTION

- Technical Problem

[0005]

As described above, since ergothioneine has useful physiological activities, foods such as supplements containing ergothioneine or a salt thereof are useful for maintaining or promoting health. However, ergothioneine or a salt thereof has a unique aroma and taste, particularly a bitterness (bitter taste) that stings the tongue, so that there is room for improvement in providing an oral composition containing ergothioneine or a salt thereof.

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Chondroitin sulfate has a fishy odor, which sometimes causes problems when chondroitin sulfate is added to an oral composition.

25

[0006]

The present invention aims to provide an oral composition containing ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof, wherein the bitterness derived from the ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof are suppressed. The present invention also aims to provide a method for suppressing the bitterness derived from ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof.

35

- Solution to Problem

[0007]

As a result of extensive studies to solve the above problems, the present inventors found that when
5 ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof are combined at a specific ratio, the bitterness derived from the ergothioneine or a salt thereof and the odor derived from the chondroitin sulfate or a salt thereof can be suppressed.

10 [0008]

The present invention encompasses the following composition and the like.

(1) An oral composition containing a component (A) and a component (B) defined as follows:

15 (A) ergothioneine or a salt thereof; and (B) chondroitin sulfate or a salt thereof, wherein a (B)/(A) weight ratio of the component (B) in terms of chondroitin sulfate to the component (A) in terms of ergothioneine is 2 to 60.

20 (2) The composition according to (1) above, wherein the composition is a food or beverage.

(3) A method for suppressing bitterness derived from ergothioneine or a salt thereof and odor derived from chondroitin sulfate or a salt thereof in an oral
25 composition containing a component (A) and a component (B) defined as follows:

(A) ergothioneine or a salt thereof; and (B) chondroitin sulfate or a salt thereof, the method including adjusting a (B)/(A) weight ratio of the component (B) in
30 terms of chondroitin sulfate to the component (A) in terms of ergothioneine to 2 to 60.

- Advantageous Effects of Invention

[0009]

35 The present invention can provide an oral composition

containing ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof, wherein the bitterness derived from the ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof are suppressed. The present invention can also provide a method for suppressing the bitterness derived from ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof.

DESCRIPTION OF EMBODIMENTS

[0010]

The oral composition of the present invention contains (A) ergothioneine or a salt thereof and (B) chondroitin sulfate or a salt thereof, wherein a (B)/(A) weight ratio of the component (B) in terms of chondroitin sulfate to the component (A) in terms of ergothioneine is 2 to 60.

[0011]

Ergothioneine is one of the sulfur-containing amino acids. In the present invention, ergothioneine is preferably L-ergothioneine.

The salt of ergothioneine is not limited as long as it is a pharmacologically or dietary acceptable salt, and it may be either an acid salt or a basic salt. Examples of the acid salt include inorganic acid salts such as hydrochloride, sulfate, nitrate, and phosphate, and organic acid salts such as acetate, citrate, maleate, malate, oxalate, lactate, succinate, fumarate, and propionate.

Examples of the basic salt include alkali metal salts such as sodium salt and potassium salt, and alkaline earth metal salts such as calcium salt and magnesium salt.

[0012]

Ergothioneine or a salt thereof is not limited in any way by its form, production method, or the like.

Chemically synthesized ergothioneine or a salt thereof may

be used, or a naturally extracted and purified ergothioneine or a salt thereof may be used. L-ergothioneine is abundant in golden/yellow oyster mushrooms (scientific name: *Pleurotus cornucopiae* var. *citrinopileatus*) belonging to the genus *Pleurotus* of the family Pleurotaceae. L-ergothioneine is also present in mushrooms such as common mushrooms (scientific name: *Agaricus bisporus*) including white button mushrooms, cremini mushrooms, and portabella mushrooms; grey oyster mushrooms (scientific name: *Pleurotus ostreatus*), shiitake (scientific name: *Lentinula edodes*), hen-of-the-woods (scientific name: *Grifola frondosa*), reishi mushrooms (scientific name: *Ganoderma lucidum*), lion's mane mushrooms (scientific name: *Hericium erinaceus*), Yanagi-matsutake (scientific name: *Agrocybe aegerita*), girolles (scientific name: *Cantharellus cibarius*), porcini mushrooms (scientific name: *Boletus edulis*), and common morel mushrooms (scientific name: *Morchella esculenta*). When L-ergothioneine is obtained from a natural product, preferably, it is extracted from a golden/yellow oyster mushroom, for example. Ergothioneine or a salt thereof can also be produced by microbial fermentation. Ergothioneine or a salt thereof may be in an isolated form.

[0013]

Chondroitin sulfate has a repeating disaccharide structure in which D-glucuronic acid or its epimer is bound to N-acetyl-D-galactosamine. Chondroitin sulfate is an acidic mucopolysaccharide in which at least a part of hydroxy groups of D-glucuronic acid or its epimer or N-acetyl-D-galactosamine is sulfated.

Examples of the epimer of D-glucuronic acid include iduronic acid, which is a C5 epimer.

Any chondroitin sulfate may be used. Examples include chondroitin sulfate A having a glucuronic acid-derived structural unit and an N-acetylgalactosamine 4-

sulfate-derived structural unit; chondroitin sulfate B having an iduronic acid 2-sulfate-derived structural unit and an N-acetylgalactosamine 4-sulfate-derived structural unit; chondroitin sulfate C having a glucuronic acid-
5 derived structural unit and an N-acetylgalactosamine 6-sulfate-derived structural unit; chondroitin sulfate D having a glucuronic acid 2-sulfate-derived structural unit and an N-acetylgalactosamine 6-sulfate-derived structural unit; chondroitin sulfate E having a glucuronic acid-
10 derived structural unit and an N-acetylgalactosamine 4,6-disulfate-derived structural unit; chondroitin sulfate H having an iduronic acid 3-sulfate-derived structural unit and an N-acetylgalactosamine 4-sulfate-derived structural unit; and chondroitin sulfate K having a glucuronic acid 2-
15 sulfate-derived structural unit and an N-acetylgalactosamine 4,6-disulfate-derived structural unit.

In one preferred embodiment of the present invention, the chondroitin sulfate is at least one selected from the group consisting of chondroitin sulfate A, chondroitin
20 sulfate B, chondroitin sulfate C, chondroitin sulfate D, chondroitin sulfate E, chondroitin sulfate H, and chondroitin sulfate K.

[0014]

Chondroitin sulfate has a fishy odor.

25 The composition of the present invention contains chondroitin sulfate or a salt thereof, so that the bitterness derived from ergothioneine or a salt thereof is reduced.

The odor derived from chondroitin sulfate or a salt thereof can be suppressed by combining chondroitin sulfate
30 or a salt thereof and ergothioneine or a salt thereof.

This facilitates continuous intake of ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof.

35 [0015]

The salt of chondroitin sulfate is not limited as long as it is a pharmacologically or dietary acceptable salt. Examples include alkali metal salts such as sodium salt and potassium salt, and alkaline earth metal salts such as calcium salt and magnesium salt. Preferred are alkali metal salts, with sodium salt being more preferred. [0016]

Any chondroitin sulfate and any salt thereof may be used in the present invention without limitations on the form, production method, or the like. A commercial product may be used, or a product extracted and purified from a natural product may be used. For example, chondroitin sulfate can be obtained, for example, by a method in which chondroitin sulfate is extracted from cartilage of cartilaginous fish such as sharks, bony fish such as salmon and trout, mollusks such as squid, and animals such as cows, pigs, and chickens. [0017]

In the composition of the present invention, the weight ratio of the component (B) (in terms of chondroitin sulfate) to the component (A) (in terms of ergothioneine) ((B) in terms of chondroitin sulfate/(A) in terms of ergothioneine) is 2 to 60.

Ergothioneine and salts thereof have a bitterness that stings the tongue. Chondroitin sulfate and salts thereof have an odor. In a composition containing the components (A) and (B), when the (B)/(A) weight ratio of the component (B) (in terms of chondroitin sulfate) to the component (A) (in terms of ergothioneine) is in the above range, the bitterness derived from the component (A) can be suppressed and the odor derived from the component (B) can also be suppressed. This facilitates continuous intake of ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof.

The (B)/(A) weight ratio is preferably 3 to 55, more

preferably 4 to 50, still more preferably 5 to 45,
particularly preferably 6 to 40, most preferably 7 to 35.
[0018]

5 The amount of the ergothioneine or a salt thereof in
the composition of the present invention is not limited and
may be set according to the form of the composition or the
like.

10 The amount of the ergothioneine or a salt thereof in
terms of ergothioneine in the composition of the present
invention is, for example, preferably 0.05 wt% or more,
more preferably 0.1 wt% or more, still more preferably 0.5
wt% or more, yet still more preferably 0.6 wt% or more,
even more preferably 0.8 wt% or more, particularly
preferably 1 wt% or more, while it is preferably 30 wt% or
15 less, more preferably 20 wt% or less, still more preferably
10 wt% or less. In one embodiment, the amount of
ergothioneine or a salt thereof in terms of ergothioneine
in the composition of the present invention is preferably
0.05 to 30 wt%, more preferably 0.1 to 30 wt%, still more
20 preferably 0.5 to 30 wt%, yet still more preferably 0.6 to
20 wt%, even more preferably 0.8 to 20 wt%, particularly
preferably 1 to 10 wt%. In the composition of the present
invention, when the ergothioneine or a salt thereof
includes two or more compounds, the amount of the
25 ergothioneine or a salt thereof is the total amount of
these compounds. The amount of the ergothioneine or a salt
thereof can be measured by high-performance liquid
chromatography (HPLC).

30 When ergothioneine is used, the expression "the
amount of the ergothioneine or a salt thereof in terms of
ergothioneine" or an expression similar thereto refers to
the amount of the ergothioneine. When a salt of
ergothioneine is used, the expression refers to a value
obtained by multiplying the molar number of the salt by the
35 molecular weight of the ergothioneine.

[0019]

The amount of the chondroitin sulfate or a salt thereof in the composition of the present invention is not limited and may be set according to the form of the composition or the like.

The amount of the chondroitin sulfate or a salt thereof in terms of chondroitin sulfate in the composition of the present invention is preferably 0.1 wt% or more, more preferably 0.2 wt% or more, still more preferably 1 wt% or more, while it is preferably 99 wt% or less, more preferably 98 wt% or less, still more preferably 95 wt% or less, yet still more preferably 90 wt% or less, particularly preferably 85 wt% or less. In one embodiment, the amount of the chondroitin sulfate or a salt thereof in terms of chondroitin sulfate in the composition of the present invention is preferably 0.1 to 99 wt%, more preferably 0.2 to 98 wt%, still more preferably 0.2 to 95 wt%, yet still more preferably 1 to 90 wt%, particularly preferably 1 to 85 wt%. In one embodiment, the amount of the chondroitin sulfate or a salt thereof in terms of chondroitin sulfate may be 0.2 to 50 wt%, 0.4 to 40 wt%, 0.5 to 30 wt%, 0.8 to 20 wt%, or 1 to 10 wt%. When the composition of the present invention contains two or more compounds as the chondroitin sulfate or a salt thereof, the amount of the chondroitin sulfate or a salt thereof is the total amount of these compounds.

The amount of the chondroitin sulfate or a salt thereof can be measured by HPLC.

When chondroitin sulfate is used, the expression "the amount of the chondroitin sulfate or a salt thereof in terms of chondroitin sulfate" or an expression similar thereto refers to the amount of the chondroitin sulfate. When a salt of chondroitin sulfate is used, the expression refers to a value obtained by multiplying the molar number of the salt by the molecular weight of the chondroitin

sulfate.

[0020]

The amount of the ergothioneine or a salt thereof in terms of ergothioneine in the composition of the present invention per adult daily intake is preferably 1 to 100 mg, more preferably 2 to 50 mg, still more preferably 5 to 25 mg, particularly preferably 5 to 20 mg.

The amount of the chondroitin sulfate or a salt thereof in terms of chondroitin sulfate in the composition of the present invention per adult daily intake is preferably 2 to 200 mg, more preferably 4 to 150 mg, still more preferably 5 to 100 mg.

[0021]

Ergothioneine and salts thereof as well as chondroitin sulfate and salts thereof are compounds that are found in natural products and food and beverages and that have been consumed. Thus, for example, daily intake of ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof is less likely to cause problems in terms of safety. The present invention can provide a composition that is highly safe and easy to ingest because the bitterness derived from ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof are reduced.

[0022]

As described above, ergothioneine or a salt thereof is known to provide various physiological activities and health functions. Known examples include antioxidant action, brain function improving effect, anti-aging action, eye disease alleviating effect, whitening effect, UV absorbing effect, melanin production suppressing effect, active oxygen species scavenging effect, elastase activity inhibitory effect, wrinkle formation suppressing effect, anti-skin sagging effect, and autophagy promoting effect.

Thus, the composition of the present invention can be

suitably used for antioxidation, brain function improvement, anti-aging, eye disease alleviation, whitening, UV absorption, melanin production suppression, active oxygen species scavenging, elastase activity inhibition, wrinkle formation suppression, anti-skin sagging, autophagy promotion, and the like.

[0023]

Chondroitin sulfate or a salt thereof is known to achieve health functions such as alleviation of pain from knee osteoarthritis, hip osteoarthritis, and the like. The composition of the present invention, which contains chondroitin sulfate or a salt thereof, can be used to obtain the effects that can be achieved based on the chondroitin sulfate or a salt thereof.

[0024]

The composition of the present invention is applicable for therapeutic use (medical use) and non-therapeutic use (non-medical use). The "non-therapeutic" is a concept that does not include medical activities, i.e., a concept that does not include methods of surgery, therapy, or diagnosis of humans.

The composition of the present invention can be provided in the form of a food or beverage, a pharmaceutical product, a quasi-pharmaceutical product, feed, or the like. The composition of the present invention may be a material, preparation, or the like to be added to a food or beverage, a pharmaceutical product, a quasi-pharmaceutical product, feed, or the like.

[0025]

The composition of the present invention is an oral composition. Specifically, the oral composition may be a food or beverage, an oral pharmaceutical product, an oral quasi-pharmaceutical product, feed, or the like. The composition is preferably a food or beverage or an oral pharmaceutical product, more preferably a food or beverage.

[0026]

The composition of the present invention can contain optional additives and optional components in addition to the ergothioneine or a salt thereof and the chondroitin sulfate or a salt thereof, as long as the effect of the present invention is not impaired. Such additives and components may be selected depending on the form of the composition, for example, and those generally usable in oral compositions such as food or beverages, pharmaceutical products, quasi-pharmaceutical products, and feed can be used. When the composition of the present invention is provided as a food or beverage, a pharmaceutical product, a quasi-pharmaceutical product, feed, or the like, any common method can be used for production. In one embodiment, the composition of the present invention may consist of ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof.

The oral composition of the present invention may be in any form such as a solid (e.g., powder, granule, or tablet), liquid, or paste form.

[0027]

For example, when the composition of the present invention is provided as a food or beverage, components usable in food or beverages (e.g., food materials and optional food additives) can be added to ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof to provide various food or beverages. The food or beverage is not limited. Examples include general food or beverages, health foods, health supplements, health drinks, foods with function claims, foods for specified health uses, and foods for the sick. The health foods, health supplements, foods with function claims, foods for specified health uses, and the like can be used in various forms of preparations such as fine granules, tablets, granules, powders, capsules, chewable tablets, dry syrups, syrups, liquid agents,

beverages, energy drinks, and liquid foods.

[0028]

When the composition of the present invention is provided as a pharmaceutical product or a quasi-pharmaceutical product, for example, a pharmacologically acceptable carrier, an optional additive, or the like can be added to ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof to provide various dosage forms of pharmaceutical products or quasi-pharmaceutical products. Such a carrier, additive, or the like may be any pharmacologically acceptable one that can be used in pharmaceutical products or quasi-pharmaceutical products. Examples include excipients, binders, disintegrants, lubricants, antioxidants, and colorants. One or more of these can be used. Examples of the dosage form for oral administration of pharmaceutical products or quasi-pharmaceutical products include liquids, tablets, powders, fine granules, granules, sugar-coated tablets, capsules, suspensions, emulsions, and chewable tablets.

[0029]

When the composition of the present invention is provided as feed, ergothioneine or a salt thereof and chondroitin sulfate or a salt thereof are simply added to feed. The feed includes feed additives. Examples of the feed include livestock feed for animals such as cows, pigs, chickens, sheep, and horses; feed for small animals such as rabbits, rats, and mice; and pet food for animals such as dogs, cats, and birds.

[0030]

The composition of the present invention may be ingested by or administered to any subject (administration subject). The administration subject is preferably a human or non-human mammal, more preferably a human.

[0031]

The present invention also encompasses the following

method:

a method for suppressing bitterness derived from ergothioneine or a salt thereof and odor derived from chondroitin sulfate or a salt thereof in an oral composition containing (A) ergothioneine or a salt thereof; and (B) chondroitin sulfate or a salt thereof, the method including: adjusting a (B)/(A) weight ratio of the component (B) in terms of chondroitin sulfate to the component (A) in terms of ergothioneine to 2 to 60.

In the preparation of the oral composition, the (B)/(A) weight ratio of the component (B) (in terms of chondroitin sulfate) to the component (A) (in terms of ergothioneine) is adjusted to the above range. This results in an oral composition in which the bitterness derived from ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof are suppressed.

[0032]

The above method can effectively suppress the bitterness derived from ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof. The taste of the oral composition can be improved by suppressing the bitterness derived from ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof.

In the above method, the ergothioneine or a salt thereof, the chondroitin sulfate or a salt thereof, and preferred embodiments thereof are the same as those of the oral composition of the present invention described above. Preferred ranges of the (B)/(A) weight ratio of the component (B) (in terms of chondroitin sulfate) to the component (A) (in terms of ergothioneine) are also the same as those in the oral composition of the present invention.

[0033]

The above method alone can suppress the bitterness

derived from the ergothioneine or a salt thereof and the odor derived from chondroitin sulfate or a salt thereof, but the above method may be combined with another method for suppressing these unpleasant flavors.

5 Examples of other suppression methods include a formulation method including adding a sweetener or a taste masking agent to a component having these unpleasant flavors, a formulation method including coating the component with sugar, and a formulation method including
10 encapsulating the component.

[0034]

Chondroitin sulfate and salts thereof are useful in suppressing the bitterness of ergothioneine or a salt thereof. The present invention also encompasses use of (B)
15 chondroitin sulfate or a salt thereof for suppressing the bitterness derived from (A) ergothioneine or a salt thereof. The chondroitin sulfate or a salt thereof is used in an amount such that the (B)/(A) weight ratio of (B) chondroitin sulfate or a salt thereof (in terms of
20 chondroitin sulfate) to (A) ergothioneine or a salt thereof (in terms of ergothioneine) is 2 or more, more preferably 2 to 60.

[0035]

Ergothioneine and salts thereof are useful in
25 suppressing the odor of chondroitin sulfate and salts thereof. The present invention also encompasses use of (A) ergothioneine or a salt thereof for suppressing the odor derived from (B) chondroitin sulfate or a salt thereof. The ergothioneine or a salt thereof is used in an amount
30 such that the (B)/(A) weight ratio of (B) chondroitin sulfate or a salt thereof (in terms of chondroitin sulfate) to (A) ergothioneine or a salt thereof (in terms of ergothioneine) is 2 or more, more preferably 2 to 60.

[0036]

35 The numerical range defined by the lower limit and

the upper limit herein, i.e., "the lower limit to the upper limit", includes the lower limit and the upper limit. For example, the range defined by "1 to 2" means 1 or more and 2 or less, with 1 and 2 being inclusive. Herein, the range
5 may be any combination of any upper limit and any lower limit.

EXAMPLES

[0037]

10 The present invention is described in further detail below with reference to Examples. The present invention is not limited to these Examples.

[0038]

15 The following materials were used in an evaluation test described below.

(A) Ergothioneine: Raw material containing 100% L-ergothioneine

(B) Chondroitin sulfate: Raw material containing 70% shark-derived chondroitin sulfate

20 [0039]

<Example 1: Aroma and taste evaluation test on composition containing ergothioneine and chondroitin sulfate>

25 A composition containing ergothioneine and chondroitin sulfate was prepared and subjected to sensory evaluation by three panelists with expertise in sensory evaluation.

30 The components (A) and (B) in the amounts shown in Table 1 were mixed to prepare compositions (compositions containing ergothioneine and chondroitin sulfate) of samples 1 to 6. Table 1 shows the (B)/(A) weight ratio ((B) in terms of chondroitin sulfate/(A)) in each of the compositions of the samples 1 to 6. The three panelists placed the whole amount of the composition prepared (for example, 20 mg in total including 10 mg of (A) and 10 mg of
35 (B) in the case of the sample 1) directly on the tongue.

The intensity of the bitterness derived from the ergothioneine and the intensity of the odor derived from the chondroitin sulfate were evaluated based on the following criteria.

5 [0040]

(A) Criteria for bitterness derived from ergothioneine

Five points were given to the intensity of the bitterness of (A) (10 mg) used alone (control 1). One point was given when no bitterness derived from the ergothioneine was perceived. The intensity was evaluated with one to five points (five-point scale).

Evaluation results by the three panelists were totaled. Table 1 shows the average results.

5 points: The bitterness derived from ergothioneine is strongly perceived.

4 points: The bitterness derived from ergothioneine is perceived.

3 points: The bitterness derived from ergothioneine is slightly perceived.

20 2 points: The bitterness derived from ergothioneine is not much perceived.

1 point: The bitterness derived from ergothioneine is not perceived.

[0041]

25 (B) Criteria for odor derived from chondroitin sulfate

Five points were given to the intensity of the odor of (B) (10 mg) used alone (control 2). One point was given when no odor derived from the chondroitin sulfate was perceived. The intensity was evaluated with one to five points (five-point scale).

Evaluation results by the three panelists were totaled. Table 1 shows the average results.

5 points: The odor derived from the chondroitin sulfate is strongly perceived.

35 4 points: The odor derived from the chondroitin sulfate is

perceived.

3 points: The odor derived from the chondroitin sulfate is slightly perceived.

2 points: The odor derived from the chondroitin sulfate is
5 not much perceived.

1 point: The odor derived from the chondroitin sulfate is not perceived.

[0042]

10 When the average evaluation points of the bitterness derived from the ergothioneine and the average evaluation points of the odor derived from the chondroitin sulfate were both less than 4.0 points, it was evaluated that the bitterness derived from the ergothioneine and the odor
derived from the chondroitin sulfate were suppressed.

15 [0043]

[Table 1]

	Amount (mg)		Ratio (B) in terms of chondroitin sulfate/(A)	Evaluation results (points)	
	(A) Ergothioneine	(B) Chondroitin sulfate raw material		Bitterness derived from (A)	Odor derived from (B)
Control 1	10	0	0	5.0	—
Sample 1	10	10	0.7	4.7	1.0
Sample 2	10	50	3.5	3.3	2.3
Sample 3	10	100	7	2.3	3.0
Sample 4	10	500	35	1.0	3.7
Sample 5	10	1000	70	1.0	5.0
Sample 6	20	100	3.5	3.0	3.0
Control 2	0	10	-	-	5.0

[0044]

When no chondroitin sulfate was added, the ergothioneine-derived bitterness that stings the tongue was strongly perceived (control 1). In contrast, when only
5 chondroitin sulfate was added, the odor derived from the chondroitin sulfate was strongly perceived (control 2). In the samples 2 to 4 and 6 each in which the (B)/(A) weight ratio of (B) chondroitin sulfate to (A) ergothioneine was in the range of 2 to 60, both the bitterness derived from
10 the ergothioneine and the odor derived from the chondroitin sulfate were effectively reduced.

CLAIMS

Claim 1. An oral composition comprising a component (A) and a component (B) defined as follows:

- 5 (A) ergothioneine or a salt thereof; and
 (B) chondroitin sulfate or a salt thereof,
 wherein a (B)/(A) weight ratio of the component (B)
in terms of chondroitin sulfate to the component (A) in
terms of ergothioneine is 2 to 60.

10

Claim 2. The composition according to claim 1,
wherein the composition is a food or beverage.

Claim 3. A method for suppressing bitterness derived
15 from ergothioneine or a salt thereof and odor derived from
chondroitin sulfate or a salt thereof in an oral
composition containing a component (A) and a component (B)
defined as follows:

- (A) ergothioneine or a salt thereof; and
20 (B) chondroitin sulfate or a salt thereof,
 the method comprising
 adjusting a (B)/(A) weight ratio of the component (B)
in terms of chondroitin sulfate to the component (A) in
terms of ergothioneine to 2 to 60.