

DESCRIPTION

TITLE OF INVENTION: ORAL COMPOSITION, AND METHOD FOR
SUPPRESSING BITTERNESS DERIVED FROM ERGOTHIONEINE OR SALT
5 THEREOF AND SMELL DERIVED FROM ARACHIDONIC ACIDS

TECHNICAL FIELD

[0001]

The present invention relates to an oral composition
10 containing ergothioneine or its salt and at least one
arachidonic acid-class compound. The present invention
also relates to a method of reducing ergothioneine- or its
salt-derived bitterness and arachidonic acid-class
compound-derived odor.

15

BACKGROUND ART

[0002]

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

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

[0003]

Arachidonic acid (hereinafter also referred to as
30 "ARA"), which is contained in meat, fish or shellfish,
eggs, and the like, is also known to have many
physiological activities. Regarding compositions
containing ARA, for example, Patent Literature 2 discloses
a composition containing a compound containing ARA as a
35 constituent fatty acid, wherein the composition has an

action that reduces a decline in decline in higher brain functions caused by organic brain damage.

CITATION LIST

5 - Patent Literature
[0004]

Patent Literature 1: JP 2017-218431 A

Patent Literature 2: JP 2016-172770 A

10 SUMMARY OF INVENTION

- Technical Problem
[0005]

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

Although foods such as supplements containing ARA are similarly useful, ARA and its derivatives have an unpleasant aroma and flavor (odor), so that there is still room for improvement in providing an oral composition.

25 Thus, while various useful effects are expectable from oral compositions containing ergothioneine or its salt and an arachidonic acid-class compound, such oral compositions are considered to cause problems such as bitterness and odor.

30 [0006]

The present invention aims to provide an oral composition containing ergothioneine or its salt and at least one arachidonic acid-class compound in which ergothioneine- or its salt-derived bitterness and
35 arachidonic acid-class compound-derived odor are reduced.

The present invention also aims to provide a method of reducing ergothioneine- or its salt-derived bitterness and arachidonic acid-class compound-derived odor of an oral composition containing ergothioneine or its salt and at least one arachidonic acid-class compound.

- Solution to Problem

[0007]

As a result of extensive studies, the present inventors found that a combination of ergothioneine or its salt and at least one arachidonic acid in a specific weight ratio can effectively reduce the ergothioneine- or its salt-derived bitterness and the arachidonic acid-class compound-derived odor.

[0008]

The present invention encompasses the following oral composition and the like.

(1) An oral composition containing: a component (A); and a component (B), the component (A) being ergothioneine or its salt, the component (B) being at least one arachidonic acid-class compound, wherein a weight ratio (B)/(A) of the component (B) in terms of arachidonic acid to the component (A) in terms of ergothioneine is within a range of 1 to 20.

(2) The composition according to (1) above, wherein the arachidonic acid-class compound is selected from the group consisting of free arachidonic acid, its salt, and a compound containing arachidonic acid as a constituent fatty acid.

(3) The composition according to (2) above, wherein the compound containing arachidonic acid as a constituent fatty acid is selected from the group consisting of a triglyceride in which at least one or each constituent fatty acid is arachidonic acid, a diglyceride in which at least one or each constituent fatty acid is arachidonic

acid, a monoglyceride in which a constituent fatty acid is arachidonic acid, a phospholipid in which at least one or each constituent fatty acid is arachidonic acid, a glycolipid in which at least one or each constituent fatty acid is arachidonic acid, and an alcohol ester of arachidonic acid.

(4) The composition according to any one of (1) to (3) above, wherein the component (B) is derived from a microorganism.

(5) The composition according to any one of (1) to (4) above, wherein the composition is a food or beverage.

(6) A method of reducing ergothioneine- or its salt-derived bitterness and arachidonic acid-class compound-derived odor in preparing an oral composition containing (A) ergothioneine or its salt, and (B) at least one arachidonic acid-class compound, the method including: adjusting a weight ratio (B)/(A) of the component (B) in terms of arachidonic acid to the component (A) in terms of ergothioneine within a range of 1 to 20.

- Advantageous Effects of Invention [0009]

The present invention can provide an oral composition containing ergothioneine or its salt and at least one arachidonic acid-class compound in which ergothioneine- or its salt-derived bitterness and arachidonic acid-class compound-derived odor are reduced. The present invention can also provide a method of reducing ergothioneine- or its salt-derived bitterness and arachidonic acid-class compound-derived odor of an oral composition containing ergothioneine or its salt and at least one arachidonic acid-class compound.

DESCRIPTION OF EMBODIMENTS

[0010]

The oral composition of the present invention (hereinafter also referred to as "the composition of the present invention") contains a component (A) and a component (B), the component (A) being ergothioneine or its salt, the component (B) being at least one arachidonic acid-class compound, wherein a weight ratio (B)/(A) of the component (B) in terms of arachidonic acid to the component (A) in terms of ergothioneine is within a range of 1 to 20. [0011]

10 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 acceptable salt or a 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]

25 Ergothioneine or its salt is not limited in any way by its form, production method, or the like. Ergothioneine or its salt that can be used may be a chemically synthesized product or a purified extract from a natural product. 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, 35 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 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 its salt can also be produced by microbial fermentation. Ergothioneine or its salt may be in an isolated form.

[0013]

The composition of the present invention contains ergothioneine or its salt and at least one arachidonic acid-class compound in the above ratio, whereby the ergothioneine- or its salt-derived bitterness and the arachidonic acid-class compound-derived odor are reduced. This facilitates continuous intake of ergothioneine or its salt and an arachidonic acid-class compound.

[0014]

The arachidonic acid-class compound that can be used is arachidonic acid (free arachidonic acid), its salt or derivative, or a derivative of the salt. One arachidonic acid-class compound may be used alone, or two or more may be used in combination. A usable derivative of arachidonic acid may be, for example, a compound having a structure in which arachidonic acid is bonded or a compound from which arachidonic acid can be isolated by hydrolysis. Examples of the compound from which arachidonic acid can be isolated by hydrolysis include compounds containing arachidonic acid as a constituent fatty acid.

Preferably, the arachidonic acid-class compound for use in the present invention is selected from the group

consisting of free arachidonic acid, its salt, and a compound containing arachidonic acid as a constituent fatty acid.

Examples of the salt of arachidonic acid include a
5 calcium salt and a sodium salt.

Preferably, the compound containing arachidonic acid as a constituent fatty acid is a compound selected from the group consisting of a triglyceride in which at least one or each constituent fatty acid is arachidonic acid, a
10 diglyceride in which at least one or each constituent fatty acid is arachidonic acid, a monoglyceride in which a constituent fatty acid is arachidonic acid, a phospholipid in which at least one or each constituent fatty acid is arachidonic acid, a glycolipid in which at least one or
15 each constituent fatty acid is arachidonic acid, and an alcohol ester of arachidonic acid.

Of these, the arachidonic acid-class compound is more preferably a triglyceride, diglyceride, or phospholipid in which at least one or each constituent fatty acid is
20 arachidonic acid, still more preferably a triglyceride or diglyceride in which at least one or each constituent fatty acid is arachidonic acid, particularly preferably a triglyceride in which at least one or each constituent fatty acid is arachidonic acid.

25 [0015]

The arachidonic acid-class compound for use in the present invention is not limited in any way by its form, production method, or the like. A chemically synthesized product, a product derived from a natural product, or a
30 product derived from a genetically modified organism (e.g., *Escherichia coli*, yeast, plants, etc.) may be used. Examples of the product derived from a natural product include products capable of producing ARA and derived from fish or shellfish, algae, microorganisms, and plants
35 (*Marchantia polymorpha*, etc.).

Of these, the arachidonic acid-class compound is preferably one derived from a microorganism. Examples of the microorganisms include those belonging to the genera *Mortierella*, *Conidiobolus*, *Pythium*, *Phytophthora*,
5 *Penicillium*, *Cladosporium*, *Mucor*, *Fusarium*, *Aspergillus*, *Rhodotorula*, *Entomophthora*, *Echinosporangium*, and *Saprolegnia*.

An arachidonic acid-class compound extracted/purified from a raw material such as a natural product containing an
10 arachidonic acid-class compound may also be used, or such a raw material may be directly used to add an arachidonic acid-class compound to a composition. Examples of the raw material containing an arachidonic acid-class compound include edible fats and oils such as fats and oils produced
15 by microorganisms, and fats and oils extracted from eggs, meat, or seafood. Any method may be used to produce an arachidonic acid-class compound using a microorganism. Any known method, for example, the method disclosed in Patent Literature 2, can be used. In one embodiment, the oral
20 composition of the present invention may contain a fat and oil, and the arachidonic acid-class compound may be a part of the fat and oil.

[0016]

In the composition of the present invention, the
25 weight ratio ((B)/(A)) of the component (B) (in terms of arachidonic acid) to the component (A) (in terms of ergothioneine) is within a range of 1 to 20. When the weight ratio is in the above range, the bitterness derived from the component (A) can be reduced. The odor derived
30 from the component (B) can also be reduced. This makes the composition suitable for ingestion. The weight ratio is preferably within a range of 1.2 to 19, more preferably within a range of 1.5 to 18.

Herein, regarding the expression for the amount in
35 terms of ergothioneine or an expression similar thereto, in

the case where the component (A) is ergothioneine, the expression refers to the amount of ergothioneine; whereas in the case where the component (A) is a salt of ergothioneine, the expression refers to a value obtained by multiplying the molar number of the salt by the molecular weight of ergothioneine.

Regarding the expression for the amount in terms of arachidonic acid or an expression similar thereto, in the case where the component (B) is free ARA, the expression refers to the amount of free ARA; whereas in the case where the component (B) is not free ARA, the expression refers to an amount in terms of free ARA obtained by isolating ARA by saponification or enzymatic treatment. When the composition contains two or more arachidonic acid-class compounds, the amount is the total amount.

[0017]

The amount of ergothioneine or its salt 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 ergothioneine or its salt in terms of ergothioneine in the composition of the present invention is, for example, preferably 0.1 wt% or more, more preferably 0.5 wt% or more, still more preferably 1 wt% or more, and is also preferably 50 wt% or less, more preferably 30 wt% or less, still more preferably 20 wt% or less. In one embodiment, the amount of ergothioneine or its salt in terms of ergothioneine in the composition of the present invention is preferably 0.1 to 50 wt%, more preferably 0.5 to 30 wt%, still more preferably 1 to 20 wt%.

The amount of ergothioneine can be measured by high-performance liquid chromatography (HPLC).

[0018]

The amount of the arachidonic acid-class compound in

the composition of the present invention is not limited and can be set according to the form of the composition and the like.

When the composition contains two or more arachidonic acid-class compounds, the amount is the total amount. The amount of arachidonic acid can be measured by gas chromatography (GC).

[0019]

The amount of ergothioneine or its salt 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 2 to 30 mg, yet still more preferably 5 to 25 mg, particularly preferably 5 to 20 mg.

In the composition of the present invention, the amount of the arachidonic acid-class compound in terms of arachidonic acid per adult daily intake is preferably 10 to 900 mg, more preferably 50 to 700 mg, still more preferably 100 to 500 mg.

[0020]

Ergothioneine, its salts, and arachidonic acid-class compounds are compounds that are found in natural products and food or beverages and that have been consumed. Thus, for example, daily ingestion of ergothioneine or its salt and an arachidonic acid-class compound is less likely to cause problems in terms of safety. The present invention can provide a highly safe and easy-to-ingest composition in which the ergothioneine- or its salt-derived bitterness and the arachidonic acid-class compound-derived odor are reduced.

[0021]

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 suppressing effect, anti-skin
5 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, whitening, UV
absorption, melanin production suppression, active oxygen
10 species scavenging, elastase activity inhibition, wrinkle
suppression, anti-skin sagging, autophagy promotion, and
the like.

[0022]

Arachidonic acid-class compounds are known to exert
15 various health functions such as a cognitive function
improving effect and an immune function regulating effect.

Since the composition of the present invention
contains an arachidonic acid-class compound, the
composition can also be used to obtain the above effects
20 exerted by the arachidonic acid-class compound.

[0023]

The composition of the present invention is
applicable for therapeutic use (medical use) and non-
therapeutic use (non-medical use). The "non-therapeutic"
25 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
30 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.

35 [0024]

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. A food or beverage or an oral pharmaceutical product is preferred, and a food or beverage is more preferred.

[0025]

The composition of the present invention can contain any additives and any components in addition to ergothioneine or its salt and an arachidonic acid-class compound, 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.

[0026]

For example, a fat and oil containing a fatty acid other than arachidonic acid or a fat and oil not containing any arachidonic acid-class compound can be added to the composition of the present invention.

When the composition of the present invention contains a fat and oil, the percentage by weight of ARA of all the fatty acids constituting the fat and oil is preferably 5 wt% or more, more preferably 10 wt% or more, still more preferably 20 wt% or more, particularly preferably 30 wt% or more.

[0027]

The composition of the present invention may be produced by any method. For example, the composition can be produced by adding (A) ergothioneine or its salt and (B) at least one arachidonic acid in a weight ratio in the above range. In preparing an oral composition containing (A) ergothioneine or its salt and (B) at least one arachidonic acid-class compound, the weight ratio ((B)/(A))

of the component (B) (in terms of arachidonic acid) to the component (A) (in terms of ergothioneine) is adjusted within a range of 1 to 20, whereby an oral composition can be obtained in which the ergothioneine- or its salt-derived
5 bitterness and the arachidonic acid-class compound-derived odor are reduced. The weight ratio can be adjusted by, for example, adding the component (A) and/or the component (B).

In the above production method, the ergothioneine or its salt, arachidonic acid-class compound, and preferred
10 embodiments thereof are the same as those of the composition of the present invention described above. Preferred ranges of the weight ratio of the component (B) (in terms of arachidonic acid) to the component (A) (in terms of ergothioneine) and the amounts of use of these
15 components are also the same as those for the composition of the present invention.

In one embodiment, the production of the oral composition may include adding a fat and oil containing one or more arachidonic acid-class compounds. One or more or
20 all of the arachidonic acid-class compounds may be added as a part of a fat and oil to the composition.
[0028]

When the composition of the present invention is provided as a food or beverage, a pharmaceutical product, a
25 quasi-pharmaceutical product, feed, or the like, any general method can be used for production. In one embodiment, the composition of the present invention may consist of ergothioneine or its salt and an arachidonic acid-class compound. The oral composition of the present
30 invention may be in any form such as a solid (e.g., powder, granule, or tablet), liquid, or paste.
[0029]

For example, when the composition of the present invention is provided as a food or beverage, components
35 usable in food or beverages (e.g., food materials and

optional food additives) can be added to ergothioneine or its salt and an arachidonic acid-class compound to provide various food or beverages. The food or beverage is not limited. Examples thereof include general food or
5 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
10 forms of preparations such as fine granules, tablets, granules, powders, capsules, chewable tablets, dry syrups, syrups, liquid agents, beverages, energy drinks, and liquid foods.

[0030]

15 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 its salt and an arachidonic
20 acid-class compound 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.
25 Examples thereof 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,
30 powders, fine granules, granules, sugar-coated tablets, capsules, suspensions, emulsions, and chewable tablets.

[0031]

When the composition of the present invention is provided as feed, ergothioneine or its salt and an
35 arachidonic acid-class compound 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
5 dogs, cats, and birds.

[0032]

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

[0033]

The present invention also encompasses the following method:

a method of reducing ergothioneine- or its salt-
15 derived bitterness and arachidonic acid-class compound-derived odor in preparing an oral composition containing (A) ergothioneine or its salt and (B) at least one arachidonic acid-class compound, the method including: adjusting a weight ratio (B)/(A) of the component (B) in
20 terms of arachidonic acid to the component (A) in terms of ergothioneine within a range of 1 to 20.

The above method can effectively reduce the ergothioneine- or its salt-derived bitterness and the arachidonic acid-class compound-derived unpleasant aroma
25 and flavor (odor).

[0034]

At least one arachidonic acid-class compound may be used to reduce the ergothioneine- or its salt-derived bitterness.

30 In the use, preferably, the weight ratio of at least one arachidonic acid-class compound (in terms of arachidonic acid) to ergothioneine or its salt (in terms of ergothioneine) is within a range of 1 to 20.

[0035]

35 In the method and the use, the ergothioneine or its

salt, arachidonic acid-class compound, and preferred embodiments thereof are the same as those of the composition of the present invention described above.

5 In the method and the use, preferred ranges of the weight ratio of the component (B) (in terms of arachidonic acid) to the component (A) (in terms of ergothioneine) and the amounts of use of these components are also the same as those for the composition of the present invention.

[0036]

10 The method and the use can reduce the ergothioneine- or its salt-derived bitterness and the ARA-derived odor, but the method and the use may also be combined with a different bitterness reducing method and/or a different odor reducing method.

15 Examples of the different bitterness reducing method include a formulation method including adding a sweetener or flavoring agent to a component having bitterness, a formulation method including sugar-coating a component having bitterness, and a formulation method including
20 encapsulating a component having bitterness.

Examples of the different odor reducing method include a formulation method including sugar-coating an odor and a formulation method including encapsulating a component having an odor.

25 [0037]

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
30 2 or less, with 1 and 2 being inclusive. Herein, the range may be any combination of any upper limit and any lower limit.

EXAMPLES

35 [0038]

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

[0039]

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

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

Fat and oil containing an arachidonic acid-class compound:
10 a fat and oil containing an arachidonic acid-class compound in an amount of 35 wt% in terms of arachidonic acid

[0040]

<Examples 1 to 4 and Comparative Examples 1 and 2: Aroma and flavor evaluation test on oral compositions containing
15 ergothioneine and arachidonic acid-class compound>

Oral compositions containing ergothioneine and an arachidonic acid-class compound were prepared and subjected to sensory evaluation by three panelists expertized in sensory evaluation.

20 The material (A) and the fat and oil containing an arachidonic acid-class compound in amounts shown in Table 1 were used to prepare oral compositions of Examples 1 to 4 and Comparative Examples 1 and 2. Table 1 shows the amount of ergothioneine (A), the amount of fat and oil containing
25 an arachidonic acid-class compound, and the amount of the arachidonic acid-class compound (B) (in terms of arachidonic acid) in each oral composition, as well as the weight ratio ((B)/(A)) of (B) arachidonic acid-class compound (in terms of arachidonic acid) to (A)
30 ergothioneine.

Each panelist placed the whole amount of the composition prepared (e.g., 20 mg in the case of Comparative Example 1) directly on the tongue and evaluated the intensity of the ergothioneine-derived bitterness and
35 the intensity of the arachidonic acid-class compound-

derived odor based on the following criteria.

[0041]

(Evaluation criteria for ergothioneine-derived bitterness)

Evaluation was made with one to five points (five-
5 point scale) based on the following criteria. Five points
were given as reference points to the intensity of the
ergothioneine-derived bitterness that was felt when the
material (A) (10 mg) was placed on the tongue.

Evaluation results by the three panelists were
10 collected. Table 1 shows the average results (points).

The bitterness was evaluated as being reduced when
the average of the evaluation results was three points or
lower.

5 points: The bitterness derived from ergothioneine is
15 strongly felt.

4 points: The bitterness derived from ergothioneine is
felt.

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

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

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

[0042]

25 (Evaluation criteria for arachidonic acid-class compound-
derived odor)

Evaluation was made with one to five points (five-
point scale) based on the following criteria. Five points
were given as reference points to the intensity of the
30 arachidonic acid-class compound-derived odor that was felt
when the fat and oil containing an arachidonic acid-class
compound (10 mg) was placed on the tongue.

Evaluation results by the three panelists were
collected. Table 1 shows the average results (points).

35 The odor was evaluated as being reduced when the

average of the evaluation results was three points or lower.

5 points: Arachidonic acid-class compound-derived odor is strongly felt.

5 4 points: Arachidonic acid-class compound-derived odor is felt.

3 points: Arachidonic acid-class compound-derived odor is slightly felt.

10 2 points: Arachidonic acid-class compound-derived odor is not much felt.

1 point: Arachidonic acid-class compound-derived odor is not felt.

[0043]

[Table 1]

	Amount (mg)		Content (mg) (B) Arachidonic acid-class compound (in terms of ARA)	Weight ratio (B)/(A)	Evaluation results (points)	
	(A) Ergothioneine	Fat and oil containing an arachidonic acid-class compound			Ergothioneine- derived bitterness	Arachidonic acid- class compound- derived odor
Comparative Example 1	10	10	3.5	0.35	3.3	1.0
Example 1	10	50	17.5	1.75	2.3	1.3
Example 2	10	100	35	3.5	1.7	2.3
Example 3	20	300	105	5.25	2.7	2.7
Example 4	10	500	175	17.5	1.3	2.6
Comparative Example 2	10	1000	350	35	1.0	3.7

[0044]

<Results>

The results confirmed that while the ergothioneine-derived bitterness was strongly felt when the ergothioneine
5 was used alone, the ergothioneine-derived bitterness was reduced when the weight ratio ((B)/(A)) of (B) arachidonic acid-class compound (in terms of arachidonic acid to (A) ergothioneine and was within the range of 1 to 20. Likewise, the results confirmed that while the arachidonic
10 acid-class compound-derived odor was strong and was thus not suitable for ingestion when the fat and oil containing an arachidonic acid-class compound was used alone, the arachidonic acid-class compound-derived odor was reduced when the arachidonic acid-class compound was combined with
15 ergothioneine in the above ratio.

CLAIMS

Claim 1. An oral composition comprising:
a component (A); and
5 a component (B),
the component (A) being ergothioneine or its salt,
the component (B) being at least one arachidonic acid-class
compound,
wherein a weight ratio (B)/(A) of the component (B)
10 in terms of arachidonic acid to the component (A) in terms
of ergothioneine is within a range of 1 to 20.

Claim 2. The composition according to claim 1,
wherein the arachidonic acid-class compound is
15 selected from the group consisting of free arachidonic
acid, its salt, and a compound containing arachidonic acid
as a constituent fatty acid.

Claim 3. The composition according to claim 2,
20 wherein the compound containing arachidonic acid as a
constituent fatty acid is selected from the group
consisting of a triglyceride in which at least one or each
constituent fatty acid is arachidonic acid, a diglyceride
in which at least one or each constituent fatty acid is
25 arachidonic acid, a monoglyceride in which a constituent
fatty acid is arachidonic acid, a phospholipid in which at
least one or each constituent fatty acid is arachidonic
acid, a glycolipid in which at least one or each
constituent fatty acid is arachidonic acid, and an alcohol
30 ester of arachidonic acid.

Claim 4. The composition according to any one of
claims 1 to 3,
wherein the component (B) is derived from a
35 microorganism.

Claim 5. The composition according to any one of claims 1 to 3,

wherein the composition is a food or beverage.

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Claim 6. A method of reducing ergothioneine- or its salt-derived bitterness and arachidonic acid-class compound-derived odor in preparing an oral composition containing (A) ergothioneine or its salt, and (B) at least one arachidonic acid-class compound, the method comprising:

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adjusting a weight ratio (B)/(A) of the component (B) in terms of arachidonic acid to the component (A) in terms of ergothioneine within a range of 1 to 20.