

SPECIFICATION

ORAL COMPOSITION

TECHNICAL FIELD

[0001] The present invention relates to an oral composition.

RELATED ART

[0002] As an oral composition, there are various kinds of oral compositions. Such oral compositions include an oral composition for physically removing plaque which adhered to teeth simply and an oral composition in which any medicinal properties are contained for expectation of various kinds of medicinal effects.

[0003] Especially, an oral composition which contains a plant constituent (particularly, a crude drug constituent having long history) derived from a natural product has physiological activity and superior safety to constituents derived from a non-natural product. Therefore, such an oral composition has been demanded particularly in the field of technology (see Patent Documents 1 and 2).

Recent years, it is required for such an oral composition to further improve a bad breath prevention effect.

[0004] The Patent Document 1 is JP-A 2015-54847, the Patent Document 2 is JP-A H06-25000 and the Patent Document 3 is JP-A 2011-256136, which are examples of the related art.

SUMMARY OF THE INVENTION

[0005] It is an object of the present invention to

provide an oral composition that contains a plurality of crude drugs and has the bad breath prevention effect which is obtained in a lower dosage than a used dosage of a single crude drug.

[0006] Such an object is achieved by the present inventions (1) to (5) described below.

(1) An oral composition comprising scutellaria root, cinnamon bark and poria sclerotium.

[0007] (2) In the oral composition in the above-mentioned item (1), it is preferred that when a content ratio of the scutellaria root in the oral composition is defined as X_A [mass%] and a content ratio of the cinnamon bark in the oral composition is defined as X_B [mass%], the following relation is satisfied: $0.00005 \leq X_B/X_A \leq 20000$.

[0008] (3) In the oral composition in the above-mentioned item (1) or (2), it is also preferred that when a content ratio of the scutellaria root in the oral composition is defined as X_A [mass%] and a content ratio of the poria sclerotium in the oral composition is defined as X_C [mass%], the following relation is satisfied: $0.000025 \leq X_C/X_A \leq 40000$.

[0009] (4) In the oral composition in any one of the above-mentioned items (1) to (3), it is also preferred that when a content ratio of the cinnamon bark in the oral composition is defined as X_B [mass%] and a content ratio of the poria sclerotium in the oral composition is defined as X_C [mass%], the following relation is satisfied: $0.000025 \leq X_C/X_B \leq 40000$.

[0010] (5) In the oral composition in any one of the above-mentioned items (1) to (4), it is also

preferred that at least one of the scutellaria root, the cinnamon bark and the poria sclerotium is contained as an extract.

[0011] According to the present invention, it is possible to provide an oral composition that contains the plurality of crude drugs and has the bad breath prevention effect which is obtained in a lower dosage than a used dosage of a single crude drug.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] Hereinbelow, description will be made on preferred embodiments according to the present invention in detail.

<<Oral Composition>>

[0013] As an oral composition, there are various kinds of oral compositions. Such oral compositions include an oral composition for physically removing plaque which adhered to teeth simply and an oral composition in which any medicinal properties are contained for expectation of various kinds of medicinal effects.

[0014] Especially, an oral composition which contains a plant constituent (particularly, a crude drug constituent having long history) derived from a natural product has physiological activity and superior safety to constituents derived from a non-natural product. Therefore, such an oral composition has been demanded particularly in the field of technology.

[0015] Recent years, it is required for such an oral composition to further improve a bad breath prevention effect.

Therefore, the present inventors have studied hard and developed an oral composition which uses a combination of scutellaria root, cinnamon bark and poria sclerotium among various kinds of crude drugs. By using them, the present inventors have found that they act synergistically, so that it is possible to obtain excellent effects.

[0016] In other words, the oral composition of the present invention contains the scutellaria root, the cinnamon bark and the poria sclerotium. By containing them together, it is possible to obtain an excellent bad breath prevention effect. Particularly, in the case where a single crude drug is used, even if a content ratio thereof is low so that the effect is not obtained at all, it is possible to obtain the sufficiently excellent bad breath prevention effect.

[0017] In this regard, it is to be noted although the references described above disclose the various kinds of crude drugs, the references fail to disclose the oral composition using the combination of the scutellaria root, the cinnamon bark and the poria sclerotium specifically.

[0018] In this present invention, the oral composition may contain the scutellaria root, the cinnamon bark and the poria sclerotium, for example, in a state of having ground plants in a dry state. Further, the oral composition may contain them as extract essence extracted by using an extract solvent such as water and an organic solvent or an extract medium such as a supercritical fluid, or a constituent obtained by removing the extract medium from the extract essence (hereinafter, these are also collectively referred to as "extract").

[0019] In particular, it is preferred that the oral composition contains at least one of the scutellaria root, the cinnamon bark and the poria sclerotium as the extract. It is more preferred that it contains all of the scutellaria root, the cinnamon bark and the poria sclerotium as the extract.

[0020] This makes it possible to suppress variation in quality between production lots, thereby obtaining stable quality.

[0021] Further, it is possible to contain a desirable constituent among constituents derived from the natural product in a relatively high content ratio in the oral composition, thereby enabling a content ratio of undesirable constituents to be suppressed in low. As a result, for example, it is possible to reliably exert expected effects while preventing color tone, flavor and the like of the oral composition from being lowered. Moreover, it is possible to obtain excellent stability of an active constituent in the oral composition. Therefore, it is possible to improve preservation stability as a whole of the oral composition and prolong an expiration date of the oral composition more, so that it is possible to assist a mild condition for preservation.

[0022] Examples of the extract solvent to obtain the extracts of the scutellaria root, the cinnamon bark and the poria sclerotium include: various kinds of inorganic solvents and various kinds of organic solvents. Specifically, examples of the extract solvent include: water; a monoalcohol such as methanol, ethanol, propyl alcohol, isopropyl alcohol, butanol, isobutanol, octanol, phenol and the like; a polyalcohol

such as propylene glycol, 1,3-butylene glycol, 1,2-butylene glycol, 1,4-butylene glycol, 1,5-pentane diol, 1,2-pentane diol, 1,3-pentane diol, 1,4-pentane diol, 1,3,5-pentane triol, glycerin, polyethylene glycol (molecular weight of 100 to 100,000) and the like; ketones such as acetone, methyl ethyl ketone and the like; esters such as ethyl acetate, methyl acetate and the like; ethers such as diethyl ether, dimethyl ether, ethyl methyl ether, dioxane and the like; nitriles such as acetonitrile and the like; a halogenide such as chloroform, carbon tetrachloride and the like; an aliphatic hydrocarbon such as hexane, octane, cyclohexane and the like; an aromatic hydrocarbon such as xylene, toluene, benzene and the like. These materials may be used singly or in combination of two or more of them. Further, an acid in which normality has been prepared (for example, hydrochloric acid, sulfuric acid, nitric acid, phosphoric acid, formic acid and acetic acid) or an alkali (for example, sodium hydroxide, potassium hydroxide, calcium hydroxide and ammonia) may be used as the extract solvent arbitrarily.

[0023] Among them, it is preferred that an ethanol aqueous solution is used as the extract solvent to obtain the extract of the scutellaria root.

In this way, the effects as described above are exerted conspicuously.

[0024] Particularly, a concentration (content ratio of the ethanol) of the ethanol aqueous solution of the extract solvent to obtain the extract of the scutellaria root is preferably 30 vol% or more and 95 vol% or less and more preferably 40 vol% or more and 70 vol% or less.

In this way, the effects as described above are exerted conspicuously.

[0025] Further, it is preferred that a solvent containing water is used as the extract solvent to obtain the extract of the cinnamon bark.

In this way, the effects as described above are exerted conspicuously.

[0026] Particularly, a content ratio of the water contained in the extract solvent to obtain the extract of the cinnamon bark is preferably 90 vol% or more and more preferably 95 vol% or more.

In this way, the effects as described above are exerted conspicuously.

[0027] Further, it is preferred that the ethanol aqueous solution is used as the extract solvent to obtain the extract of the poria sclerotium.

In this way, the effects as described above are exerted conspicuously.

[0028] Particularly, a concentration (content ratio of the ethanol) of the ethanol aqueous solution of the extract solvent to obtain the extract of the poria sclerotium is preferably 30 vol% or more and 95 vol% or less and more preferably 45 vol% or more and 85 vol% or less.

In this way, the effects as described above are exerted conspicuously.

[0029] In the oral composition, the scutellaria root, the cinnamon bark and the poria sclerotium may be contained in any form. For example, they may be contained in a powder manner or particle manner, as an

oil constituent, or in a state of dissolving with other constituents.

[0030] A content ratio of the scutellaria root in the oral composition (content ratio of the scutellaria root in the dry state) is not particularly limited, but preferably 0.00001 mass% or more and 10 mass% or less, more preferably 0.0001 mass% or more and 2.0 mass% or less, and even more preferably 0.0005 mass% or more and 0.05 mass% or less.

[0031] If the content ratio of the scutellaria root is smaller than the lower limit value noted above, there is a possibility that the effects of the present invention are not exerted sufficiently by depending on the content ratios of the cinnamon bark and the poria sclerotium.

[0032] On the other hand, if the content ratio of the scutellaria root exceeds the upper limit value noted above, there is a case that a problem of coloring and a problem of a low sense of use by uncomfortable flavors such as bitter flavor occur more conspicuously.

[0033] A content ratio of the cinnamon bark in the oral composition (content ratio of the cinnamon bark in the dry state) is not particularly limited, but preferably 0.00001 mass% or more and 10 mass% or less, more preferably 0.0001 mass% or more and 2.0 mass% or less, and even more preferably 0.0008 mass% or more and 0.1 mass% or less.

[0034] If the content ratio of the cinnamon bark is smaller than the lower limit value noted above, there is a possibility that the effects of the present invention are not exerted sufficiently by depending on

the content ratios of the scutellaria root and the poria sclerotium.

[0035] On the other hand, if the content ratio of the cinnamon bark exceeds the upper limit value noted above, there is the case that the problem of coloring and the problem of the low sense of use by the uncomfortable flavors such as the bitter flavor occur more conspicuously.

[0036] A content ratio of the poria sclerotium in the oral composition (content ratio of the poria sclerotium in the dry state) is not particularly limited, but preferably 0.00001 mass% or more and 10 mass% or less, more preferably 0.00005 mass% or more and 4.0 mass% or less, and even more preferably 0.002 mass% or more and 1.0 mass% or less.

[0037] If the content ratio of the poria sclerotium is smaller than the lower limit value noted above, there is a possibility that the effects of the present invention are not exerted sufficiently by depending on the content ratios of the scutellaria root and the cinnamon bark.

[0038] On the other hand, if the content ratio of the poria sclerotium exceeds the upper limit value noted above, there is the case that the problem of coloring and the problem of the low sense of use by the uncomfortable flavors such as the bitter flavor occur more conspicuously.

[0039] When the content ratio of the scutellaria root in the oral composition is defined as X_A [mass%] and the content ratio of the cinnamon bark in the oral composition is defined as X_B [mass%], the following

relation is satisfied: preferably $0.00005 \leq X_B/X_A \leq 20000$, more preferably $0.015 \leq X_B/X_A \leq 200$, and even more preferably $0.03 \leq X_B/X_A \leq 100$.

[0040] This makes it possible to obtain more excellent bad breath prevention effect as well as the more excellent preservation stability of the oral composition.

[0041] When the content ratio of the scutellaria root in the oral composition is defined as X_A [mass%] and the content ratio of the poria sclerotium in the oral composition is defined as X_C [mass%], the following relation is satisfied: preferably $0.000025 \leq X_C/X_A \leq 40000$, more preferably $0.04 \leq X_C/X_A \leq 2000$, and even more preferably $0.1 \leq X_C/X_A \leq 1000$.

[0042] This makes it possible to obtain more excellent bad breath prevention effect as well as the more excellent preservation stability of the oral composition.

[0043] When the content ratio of the cinnamon bark in the oral composition is defined as X_B [mass%] and the content ratio of the poria sclerotium in the oral composition is defined as X_C [mass%], the following relation is satisfied: preferably $0.000025 \leq X_C/X_B \leq 40000$, more preferably $0.02 \leq X_C/X_B \leq 1250$, and even more preferably $0.05 \leq X_C/X_B \leq 700$.

[0044] This makes it possible to obtain more excellent bad breath prevention effect as well as the more excellent preservation stability of the oral composition.

The oral composition of the present invention may contain any constituents other than the constituents

described above.

[0045] Examples of such constituents (other constituents) include an abrading agent, a wetting agent, a solvent, a binder, a flavor, a diluting agent, a sweetening agent, a pH adjuster, an antiseptic agent, an emulsifying agent, a solubilizing agent, a foaming agent, a lubricant, an oil, a surfactant, a coloring agent, an antioxidizing agent, a chelate agent, a flavoring substance, a moisturizing agent, an antibacterial agent, an anti-inflammatory drug, fluoride, a vitamin preparation, crude drugs other than the crude drugs described above, and the like.

[0046] Examples of the abrading agent include: a silica-based abrading agent such as silica gel, silica having sedimentation property, silica having pyrogenic property, hydrated silicate, anhydrous silicic acid, aluminosilicate, zirconsilicate, and the like; calcium hydrogen phosphate for brushing such as dicalcium phosphate dehydrate, dicalcium phosphate non-hydrate, and the like; calcium carbonate such as light calcium carbonate, heavy calcium carbonate, and the like; calcium phosphate, trimagnesium phosphate, tricalcium phosphate, insolubility calcium metaphosphate, calcium pyrophosphate, aluminum hydroxide, aluminum oxide, magnesium carbonate, zirconium silicate, titanium dioxide, a synthetic resin-based abrading agent, zeolite, and the like. These materials may be used singly or in combination of two or more of them.

Particularly, it is preferred that the oral composition contains the abrading agent constituted of a porous body.

[0047] This makes it possible to support the crude drug constituents described above (in particular, the

extract of the scutellaria root, the extract of the cinnamon bark, and the extract of the poria sclerotium) into pores of the abrading agent (porous body), thereby enabling the bitter flavor of the crude drugs to be reduced.

Among the abrading agents described above, it is preferred that the zeolite is used particularly.

[0048] The use of the zeolite makes it possible to reliably support the crude drug constituents (in particular, the extract of the scutellaria root, the extract of the cinnamon bark, and the extract of the poria sclerotium) into the pores of the abrading agent (porous body), thereby enabling the bitter flavor of the crude drugs to be reduced.

[0049] Examples of the wetting agent include: a polyalcohol such as glycerin, sorbitol, polyethylene glycol, propylene glycol, ethylene glycol, 1,3-butylene glycol, polypropylene glycol, xylitol, maltitol, and lactitol; and the like. These materials may be used singly or in combination of two or more of them.

[0050] An organic solvent such as an alcohol and water are preferable as the solvent. Examples of the organic solvent include: ethanol, propylalcohol, isopropylalcohol and the like. Especially, the ethanol is preferable.

[0051] Examples of the binder include: a cellulose derivative such as carrageenan, carboxymethyl cellulose, carboxymethyl cellulose sodium and the like; alkali metal alginate such as sodium alginate and the like; gums such as xanthane gum, tragacanth gum, arabic gum and the like; a synthetic binder such as polyvinyl alcohol, sodium polyacrylate and the like; and the

like. These materials may be used singly or in combination of two or more of them.

[0052] Examples of the flavor include a compound flavor such as a strawberry flavor, an apple flavor, a banana flavor, a pineapple flavor, a grape flavor, a mango flavor, a butter flavor, a milk flavor, a fruit mix flavor, a tropical fruit flavor and the like, which are known as flavor materials. These materials may be used singly or in combination of two or more of them.

[0053] Examples of the diluting agent include: sucrose, lactose, starch, glucose, crystalline cellulose, mannitol, sorbitol, xylitol, erythritol, palatinit, palatinose, maltitol, trehalose, lactitol, lactulose, hydrogenated starch hydrolysates, hydrogenated isomaltoligosaccharide, coupling sugar, gum base, arabic gum, gelatin, cethyl methyl cellulose, light anhydrous silicic acid, magnesium aluminate, calcium metasilicate aluminate, sodium hydrogen carbonate, calcium phosphate and the like. These materials may be used singly or in combination of two or more of them.

[0054] Examples of the sweetening agent include palatinit, aspartame, saccharin sodium, acesulfame potassium, stevioside, neohesperidin dihydrochalcone, glycyrrhizin, perillarin, thaumatin, aspartyl phenyl alanyl methyl ester, *p*-methoxy cinnamic aldehyde, and the like. These materials may be used singly or in combination of two or more of them.

[0055] Examples of the pH adjuster include citric acid, phosphoric acid, pantothenic acid, malic acid, pyrophosphoric acid, lactic acid, tartaric acid, glycerophosphoric acid, acetic acid, nitric acid, a

chemically possible salt such as disodium hydrogenphosphate, sodium hydroxide, and the like. These materials may be used singly or in combination of two or more of them so that the pH of the composition falls within a suitable range.

[0056] Examples of the antiseptic agent include para-hydroxy benzonates, benzoic acid and a salt thereof, salicylic acid and a salt thereof, sorbic acid and a salt thereof, phenoxyethanol, alkylldiamino ethylglycine hydrochloride, and the like. These materials may be used singly or in combination of two or more of them.

[0057] Examples of the emulsifying agent include polyoxyethylene alkyl ether, polyoxyethylene fatty acid ester, polyoxyethylene sorbitan fatty acid ester, sorbitan fatty acid ester, glycerine fatty acid ester, polyglycerine fatty acid ester, polyoxyethyle hydrogenated castor oil, sodium stearyl lactate, soy phospholipid, chloride alkyl trimethyl ammonium, and the like. These materials may be used singly or in combination of two or more of them.

[0058] Examples of the solubilizing agent include esters, polyethylene glycol derivatives, polyoxyethylene hydrogenated castor oil, sorbitan fatty acid esters, sulfated fatty alcohols and the like. These materials may be used singly or in combination of two or more of them.

[0059] Examples of the foaming agent include sodium lauryl sulfate, sodium lauroyl sarcosinate, sodium alkylsulfo succinate, coconut oil fatty acid monoglycerin sodium slufonate, α -olefin sodium slufonate, an N-acylamino acid salt such as N-acyl

glutamate, 2-alkyl-N-carboxymethyl-N-hydroxyethyl imidazolinium betaine, maltitol fatty acid ester, sucrose fatty acid ester, a polyglyceryl fatty acid ester, fatty acid diethanolamide, polyoxyethylene sorbitan monostearate, polyoxyethylene hydrogenated castor oil, polyoxyethylene fatty acid ester, and the like. These materials may be used singly or in combination of two or more of them.

[0060] Examples of the lubricant include magnesium stearate, sucrose fatty acid ester, talc, hydrogenated oil and the like. These materials may be used singly or in combination of two or more of them.

[0061] Examples of the oil include coconut oil, olive oil, sesame oil, peanut oil, parsley oil, parsley seed oil, safflower oil and the like. These materials may be used singly or in combination of two or more of them.

[0062] Examples of the surfactant include sodium lauryl sulfate, α -olefin sodium sulfonate, sodium dodecylbenzene sulfonate, sodium lauryl sulfacetate, sodium N-lauroyl sarcosinate, N-acylglutamate, sucrose fatty acid ester, polyoxyethylene hydrogenated castor oil, a polyoxyethylene polyoxypropylene block copolymer, alkyl glycosides, sorbitan fatty acid ester, polyoxyethylene sorbitan fatty acid ester, alkyldimethyl amine oxide, lauryl ethanol amide, sodium cocoyl sarcosinate, sodium N-lauroyl methyl taurine liquid and the like. These materials may be used singly or in combination of two or more of them.

[0063] Examples of the coloring agent include: a pigment such as Blue No.1 and the like; a colorant such as titanium dioxide and the like; various kinds of

dyes; and the like. These materials may be used singly or in combination of two or more of them.

[0064] Examples of the antioxidizing agent include dibutylhydroxyl toluene, butylhydroxyl anisole, erythorbic acid, propyl gallate, octyl gallate, d- α -tocopherol, vitamin C, vitamin E, edetate disodium, calcium gluconate, and the like.

[0065] Examples of the chelate agent include edentates and the like.

Examples of the flavoring substance include camellia sinensis leaf extract, camellia sinensis leaf tar, sodium glutamate and the like. These materials may be used singly or in combination of two or more of them.

[0066] Examples of the moisturizing agent include amino acid or a salt thereof, pyrrolidone carboxylic acid, mucin, hyaluronic acid or a salt thereof, mucopolysaccharides such as chondroitin sulfate, sodium lactate, urea, panthenol, a natural extract constituent such as aloe extract, rosemary extract, thyme extract, camellia sinensis leaf extract (camellia sinensis leaf tar extract) and the like, as it is called, an extracellular matrix such as collagen and elastin and the like. These materials may be used singly or in combination of two or more of them.

[0067] Examples of the antibacterial agent include: a phenol based antibacterial agent such as isopropyl methyl phenol, triclosan, hinokitiol, thymol and the like; cetylpyridinium chloride, benzalkonium chloride, benzethonium chloride, dequalinium chloride, chlorhexidine hydrochloride, chlorhexidine sodium gluconate, bisabolol chlorhexidine, lactoferrin,

paraben, butyl paraben, and the like. These materials may be used singly or in combination of two or more of them.

[0068] Examples of the anti-inflammatory drug include lysozyme chloride, ϵ -aminocaproic acid, aluminum hydroxyl allantoin, glycyrrhetic acid, glycyrrhizates, guaiazulene sulphonic acid, acetic acid dl- α -tocopherol and the like. These materials may be used singly or in combination of two or more of them.

[0069] Examples of the fluoride include sodium fluoride, potassium fluoride, sodium monofluorophosphate, stannous fluoride and the like. These materials may be used singly or in combination of two or more of them.

[0070] Examples of the vitamin preparation include: vitamin A such as retinoic acid, β -carotene and the like; vitamin B such as pantothenic acid and salts thereof, niacin, biotin and the like; vitamin C such as ascorbic acid or salts thereof and derivatives thereof and the like; vitamin E such as α -tocopherol and the like; folic acid and the like. These materials may be used singly or in combination of two or more of them.

[0071] Examples of the crude drugs other than the crude drugs described above include german chamomile, Japanese valerian, jujube, hop, lavender, linden, pseudocydonia sinensis, lonicera japonical, sasa veitchii, elaeagnus, clove, panax notoginseng, salvia, soapberry, platycodon root, rehmannia root, paony root, crataegus fruit, Japanese angelica root, theae folium, quercus saslicina, phellodendron bark, betula platyphylla, ginseng, gambier, turmeric, rosemary, and

the like. These may be used singly or in combination of two or more of them.

[0072] In the case where the oral composition contains the crude drugs as described above, the oral composition may contain the crude drugs as described above, for example, in a state of having ground plants in the dry state. Further, the oral composition may contain them as the extract essence extracted by using the extract solvent such as water and the organic solvent or the extract medium such as the supercritical fluid, or the constituent (extract) obtained by removing the extract medium from the extract essence.

[0073] A configuration of the oral composition is not limited particularly. Examples of such a configuration include a liquid (emulsified form, solubilization form), a liquid form, a gel form, a paste form, a tablet form, a foam form, a powder form, a granular form and the like.

[0074] Examples of applications for the oral composition include: a dentifrice such as a toothpaste, a toothpowder, a liquid-like toothpaste, a tooth liquid and the like; a lozenge; a tablet (which includes a foaming tablet and the like); a cream agent; an ointment; an adhesive skin patch; a oral wetting agent; a mouth rinse; a chewing gum; and the like.

[0075] <<Method for Producing Oral Composition>>

The oral composition of the present invention is able to be obtained by mixing each constituent as described above.

[0076] Especially, in the case where the oral composition contains the porous body, it is preferred

that the scutellaria root, the cinnamon bark and the poria sclerotium as described above are mixed with the porous body in advance, and then it is mixed with other constituents.

This makes it possible to reliably support the crude drugs in the pores of the porous body.

[0077] The preferred embodiments of the present invention have been described. However, the present invention is not limited thereto.

EXAMPLES

[0078] Hereinafter, description of the invention will be made on Examples and Comparative Examples in detail. However, the present invention is not limited thereto.

[0079] <<1>> Production of Liquid Composition

A liquid composition (oral composition) in each of the Examples and Comparative Examples was produced as follows.

[0080] (Example 1)

A liquid composition was obtained by dissolving only predetermined amounts (see Table 1) of freeze-dried powder of scutellaria root extract liquid-J (produced by MARUZEN PHARMACEUTICALS CO., LTD.) as the extract of the scutellaria root, cinnamon bark extract W-LA (produced by MARUZEN PHARMACEUTICALS CO., LTD.) as the extract of the cinnamon bark, and freeze-dried powder of poria sclerotium extract liquid (produced by MARUZEN PHARMACEUTICALS CO., LTD.) as the extract of the poria sclerotium with water.

[0081] (Examples 2 to 10)

Liquid compositions were produced in the same

manner as the Example 1, except that a content ratio of each constituent of raw materials was changed as shown in Table 1.

[0082] (Comparative Example 1)

A liquid composition was produced in the same manner as the Example 1, except that the scutellaria root, the cinnamon bark and the poria sclerotium were not used as the raw material.

[0083] (Comparative Example 2)

A liquid composition was produced in the same manner as the Example 1, except that the cinnamon bark and the poria sclerotium were not used as the raw material.

[0084] (Comparative Example 3)

A liquid composition was produced in the same manner as the Example 1, except that the scutellaria root and the poria sclerotium were not used as the raw material.

[0085] (Comparative Example 4)

A liquid composition was produced in the same manner as the Example 1, except that the scutellaria root and the cinnamon bark were not used as the raw material.

[0086] (Comparative Example 5)

A liquid composition was produced in the same manner as the Example 1, except that the scutellaria root was not used as the raw material.

[0087] (Comparative Example 6)

A liquid composition was produced in the same manner as the Comparative Example 3, except that the

use amounts of water and the cinnamon bark were changed.

[0088] Table 1 shows compositions and the like of the liquid compositions obtained in the Examples and the Comparative Examples described above together. In Table 1, the content ratio of the scutellaria root in each liquid composition was shown as X_A (mass%), the content ratio of the cinnamon bark in each liquid composition was shown as X_B (mass%), and the content ratio of the poria sclerotium in each liquid composition was shown as X_C (mass%).

[0089] Table 1

	Content ratio [mass%]				X_B/X_A	X_C/X_A	X_C/X_B
	Scutellaria root	Cinnamon bark	Poria sclerotium	Water			
Ex.1	0.01	0.015	0.05	Residue	1.5	5.0	3.3
Ex.2	0.005	0.015	0.05	Residue	3	10	3.3
Ex.3	0.01	0.008	0.05	Residue	0.8	5	6.3
Ex.4	0.01	0.015	0.02	Residue	1.5	2	1.3
Ex.5	0.5	0.015	0.05	Residue	0.03	0.1	3.3
Ex.6	0.01	1	0.05	Residue	100	5	0.1
Ex.7	0.01	0.015	10	Residue	1.5	1000	667
Ex.8	20	0.015	0.05	Residue	0.001	0.003	3.3
Ex.9	0.01	20	0.05	Residue	2000	5	0.003
Ex.10	0.01	0.015	40	Residue	1.5	4000	2667
Com. Ex.1	—	—	—	Residue	—	—	—
Com. Ex.2	0.01	—	—	Residue	—	—	—
Com. Ex.3	—	0.015	—	Residue	—	—	—
Com. Ex.4	—	—	0.05	Residue	—	—	—
Com. Ex.5	—	0.015	0.05	Residue	—	—	3.3
Com. Ex.6	—	0.045	—	Residue	—	—	—

[0090] <<2>> Evaluations

The following evaluations were made by using the liquid compositions of the Examples and the Comparative

Examples.

[0091] <<2-1>> Evaluation of deodorant effect

4.25 mL of porphyromonas gingivalis JCM 12257 (O.D.0.3) suspended in a phosphate buffered saline (PBS), 0.5 mL of the liquid composition as a test sample, and 0.25 mL of 100 mM L-methionine aqueous solution were placed in a vial bottle and mixed. This was subjected to anaerobic culture at 37°C for 3 hours in a sealed state.

[0092] The anaerobic culture was performed in the same manner as the above method, except that a distilled water was used as the test sample. This was used as a control.

[0093] For these, after 3 hours of the anaerobic culture, an amount of methyl mercaptan in which bacteria was generated was measured by gas chromatography.

[0094] When the amount of methyl mercaptan for the control was taken as 100, an amount of the residual methyl mercaptan of the liquid composition obtained in each Example and each Comparative Example was subtracted from 100 to obtain a value to thereby calculate a deodorization ratio (%). The deodorization ratio was evaluated according to the following criteria.

[0095] A: A deodorization ratio is 55% or more.

B: A deodorization ratio is 40% or more but lower than 55%.

C: A deodorization ratio is 30% or more but lower than 40%.

D: A deodorization ratio is 20% or more but

lower than 30%.

E: A deodorization ratio is lower than 20%.

[0096] <<Color Tone>>

In the liquid composition of each of the Examples and the Comparative Examples, the absorbance of light having a wavelength of 286 nm was measured to evaluate according to the following criteria. If the absorbance is low, the appearance thereof is excellent.

[0097] A: An absorbance is lower than 25.0.

B: An absorbance is 25.0 or more.

[0098] These results are shown in Table 2. Further, the concentration (content ratio) of each constituent at the time of the above examination is shown together in Table 2.

[0099] Table 2

	Content ratio at the time of examination (mass%)				Bad breath Prevention effect	Color tone
	Scutellaria root	Cinnamon bark	Poria sclerotium	Water		
Ex.1	0.001	0.0015	0.005	Residue	A	A
Ex.2	0.0005	0.0015	0.005	Residue	C	A
Ex.3	0.001	0.0008	0.005	Residue	B	A
Ex.4	0.001	0.0015	0.002	Residue	B	A
Ex.5	0.05	0.0015	0.005	Residue	A	A
Ex.6	0.001	0.1	0.005	Residue	A	A
Ex.7	0.001	0.0015	1	Residue	A	A
Ex.8	2	0.0015	0.005	Residue	A	B
Ex.9	0.001	2	0.005	Residue	A	B
Ex.10	0.001	0.0015	4	Residue	A	B
Com. Ex.1	—	—	—	Residue	E	A
Com. Ex.2	0.001	—	—	Residue	E	A
Com. Ex.3	—	0.0015	—	Residue	E	A
Com. Ex.4	—	—	0.005	Residue	E	A
Com. Ex.5	—	0.0015	0.005	Residue	E	A
Com. Ex.6	—	0.0045	—	Residue	E	A

[0100] As shown from Table 2 clearly, the excellent effects were obtained in the present invention. In contrast, the sufficient results could not be obtained in the Comparative Examples. Specifically, as shown in the Example 1 and the Comparative Examples 1 and 2 of Table 2 clearly, even if there is no effect in the concentration of each of the scutellaria root, the cinnamon bark and the poria sclerotium by itself, the remarkable effects were obtained by using them together. Further, as shown in the Example 1 and the Comparative Example 5 clearly, even if there is no effect in the concentrations in the case of using only two constituents of the scutellaria root, the cinnamon bark and the poria sclerotium, the remarkable effects

were obtained by mixing the three constituents of the scutellaria root, the cinnamon bark and the poria sclerotium together.

[0101] As described later, a toothpaste as the oral composition was produced by using the liquid composition of the Example 2. Thereafter, the evaluations for sense of use were carried out.

[0102] <Prescription A>

First, the liquid composition of the Example 1 was added to zeolite as the porous body having a predetermined amount.

[0103] Then, the toothpaste as the oral composition was produced by the ordinary method in accordance with the following prescription (unit: mass%).

[0104]	Scutellaria root	: 0.001
	Cinnamon bark	: 0.0015
	Poria sclerotium	: 0.005
	Calcium carbonate	: 30.0
	Silicic acid anhydride	: 5.0
	Zeolite	: 5.0
	Sorbit liquid	: 15.0
	Concentrated glycerin	: 10.0
	Carboxymethylcellulose sodium	: 1.0
	Sodium lauryl sulfate	: 0.5
	Saccharin sodium	: 0.05
	Flavor	: 1.0
	Water	: Residue

[0105] <Prescription B>

First, the liquid composition of the Example 1 was mixed with each constituent of the following mass%. Then, the toothpaste as the oral composition was

produced by the ordinary method in accordance with the following prescription (unit: mass%).

[0106]	Scutellaria root	: 0.001
	Cinnamon bark	: 0.0015
	Poria sclerotium	: 0.005
	Calcium carbonate	: 30.0
	Silicic acid anhydride	: 5.0
	Sorbit liquid	: 15.0
	Concentrated glycerin	: 10.0
	Carboxymethylcellulose sodium	: 1.0
	Sodium lauryl sulfate	: 0.5
	Saccharin sodium	: 0.05
	Flavor	: 1.0
	Water	: Residue

[0107] The toothpaste of the prescription B is different from the toothpaste of the prescription A in that it does not contain zeolite as the porous body and the content ratio of the water become high in the amount of zeolite.

[0108] 15 adults put a predetermined amount (about 1 g) of each of the two kinds of obtained toothpastes (oral composition) as described above on a commercially available toothbrush to use it. The 15 adults evaluated the sense of use at that time.

[0109] As a result, all of 15 adults answered that the toothpaste of the prescription A (oral composition) was less than the toothpaste of the prescription B (oral composition) at the time of using them in the uncomfortable feeling such as bitter felling.

[0110] By using the liquid composition (composition containing water) of each of the Examples and the

Comparative Examples, a mouth rinse (mouthwash), a denture cleaner and a denture adhesive as the oral composition were produced by the ordinary method in accordance with the following prescription (unit: mass%).

[0111] <Mouth Rinse>

Scutellaria root	: 0.001
Cinnamon bark	: 0.0015
Poria sclerotium	: 0.005
Denatured alcohol No. 56	: 5.0
Polyoxyethylene hydrogenated castor oil	: 0.5
Concentrated glycerin	: 5.0
Xylitol	: 5.0
Cetylpyridinium chloride	: 0.05
Dipotassium glycyrrhizinate	: 0.05
Eethyl para-hydroxybenzoate	: 0.05
Propyl para-hydroxybenzoate	: 0.05
Citric acid	: 0.03
Sodium citrate	: 0.12
Flavor	: 1.0
Water	: Residue

[0112] <Denture Cleaner>

Scutellaria root	: 0.001
Cinnamon bark	: 0.0015
Poria sclerotium	: 0.005
Silicic acid anhydride	: 3.0
Hydrous silicic acid	: 10.0
Polyethylene glycol 400	: 5.0
Concentrated glycerin	: 35.0
60 mass% sorbit liquid	: 30.0
Sodium lauryl sulfate	: 2.0
Carboxymethylcellulose sodium	: 1.5
Flavor	: 1.0
Sodium carbonate	: Moderate amount

Water : Residue

[0113] <Denture Adhesive>

Scutellaria root	: 0.001
Cinnamon bark	: 0.0015
Poria sclerotium	: 0.005
Zeolite	: 5.0
Concentrated glycerin	: 30.0
Carboxymethylcellulose sodium	: 3.0
Polyoxyethylene hydrogenated castor oil:	1.0
Cetylpyridinium chloride	: 0.05
Flavor	: 1.0
Sodium carbonate	: Moderate amount
Water	: Residue

[0114] These were evaluated in the same manner described above, so that the same effects as described above were obtained.

INDUSTRIAL APPLICABILITY

[0115] The present invention is characterized in that the oral composition contains the scutellaria root, the cinnamon bark and the poria sclerotium. Therefore, the oral composition of the present invention has the bad breath prevention effect which is obtained in the lower dosage than the used dosage of the single crude drug. Accordingly, the oral composition of the present invention has industrial applicability.

Claims

1. A dentifrice comprising scutellaria root, cinnamon bark and poria sclerotium.
2. The dentifrice as claimed in claim 1, wherein when a content ratio of the scutellaria root in the dentifrice is defined as X_A [mass%] and a content ratio of the cinnamon bark in the dentifrice is defined as X_B [mass%], the following relation is satisfied: $0.00005 \leq X_B/X_A \leq 20000$.
3. The dentifrice as claimed in claim 1 or 2, wherein when a content ratio of the scutellaria root in the dentifrice is defined as X_A [mass%] and a content ratio of the poria sclerotium in the dentifrice is defined as X_C [mass%], the following relation is satisfied: $0.000025 \leq X_C/X_A \leq 40000$.
4. The dentifrice as claimed in any one of claims 1 to 3, wherein when a content ratio of the cinnamon bark in the dentifrice is defined as X_B [mass%] and a content ratio of the poria sclerotium in the dentifrice is defined as X_C [mass%], the following relation is satisfied: $3.3 \leq X_C/X_B \leq 2667$.
5. The dentifrice as claimed in any one of claims 1 to 4, wherein a content ratio of the scutellaria root in the dentifrice is 0.0005 mass% or more and 0.05 mass% or less, a content ratio of the cinnamon bark in the dentifrice is 0.0001 mass% or more and 2.0 mass% or less, and a content ratio of the poria sclerotium in the dentifrice is 0.00005 mass% or more and 4.0 mass% or less.

6. The dentifrice as claimed in any one of claims 1 to 5 further comprising a porous body.

7. The dentifrice as claimed in claim 6, wherein the porous body comprises zeolite.