

# Carcinostatic composition and food containing the same

## Abstract

<P>PROBLEM TO BE SOLVED: To obtain a carcinostatic composition capable of suppressing proliferation of cancer cells. <P>SOLUTION: The carcinostatic composition comprises an aqueous solvent-extracted liquid of fumus soil. Foods containing the same are also provided. <P>COPYRIGHT: (C)2006,JPO&NCIPI

## Images (1)



JP2006111537A

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## Worldwide applications

2004 [JP](#)

## Application JP2004297828A events

**2004-10-12** Application filed by MARINEKKUS KK, NIPPON FUMIN BUSSHITSU OYO KEN, NIPPON FUMIN BUSSHITSU OYO KENKYUSHO KK, Osaka Prefecture

**2004-10-12** Priority to JP2004297828A

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**Status** Pending

**Info:** [Patent citations \(2\)](#), [Cited by \(4\)](#), [Legal events](#), [Similar documents](#), [Priority and Related Applications](#)

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## Claims (4)

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translated from Japanese

An anticancer composition comprising an aqueous solvent extract of humus as an active ingredient. The aqueous solvent extract of humus has a pH of 2.0 to 3.0, contains calcium, iron, sodium, magnesium, aluminum and silicon as minerals and contains 1000 to 1200 ppm of sulfur. 2. The anticancer composition according to 1. An aqueous solvent extract of humus soil

- (1) Repeat stirring and standing of the mixture of humus soil and aqueous solvent until the pH is 2.8 or less and the electric conductivity is 400 mV or more,
- (2) Remove solids,
- (3) Leave the resulting supernatant at ambient temperature for a long time,
- (4) The anticancer composition according to claim 1 or 2, which is obtained by a filtration step. A food comprising the anticancer composition according to any one of claims 1 to 3.

## Description

translated from Japanese

**TECHNICAL FIELD** The present invention relates to a composition having an anticancer action characterized by containing an aqueous solvent extract extracted from humus as an active ingredient, and a food and a pharmaceutical containing the same.

It is known that soil called humus soil is obtained from wetlands and the seabed, and has been humused to a state where flora and fauna of plankton are deposited and its structural shape is not seen. Humus is rich in fulvic acid, humic acid and various minerals. Moreover, it is known that the extract extracted from humus soil has a bactericidal action, and has been conventionally used as a bactericidal deodorant.

JP 7-492 A Japanese Patent Laid-Open No. 10-59861 JP-A-11-29423 JP-A-5-192666 JP-A-6-87752 JP-A 63-84618

The present inventors have found that an extract extracted from humus using an aqueous solvent has an action of suppressing the growth of cancer cells, and completed the present invention.

The present invention is an anticancer composition comprising an aqueous solvent extract of humus as an active ingredient.

The present invention is also a food containing the anticancer composition.

In the present specification, "anti-cancer" means that cancer cell growth can be suppressed.

Since the anticancer composition of the present invention can suppress the growth of cancer cells, cancer can be prevented by ingesting the composition directly or by taking a food or a medicine containing the composition, It can maintain and improve human health.

In the present invention, the aqueous solvent extract of humus is obtained by extracting humus with an aqueous solvent.

The humus soil is mainly composed of humic substances produced by depositing dead bodies of animal and phytoplankton and being decomposed by microorganisms. This humic substance is formed by repeated decomposition and metabolism by microorganisms, and is known to contain various organic substances and minerals.

Although the humus used in this invention is not specifically limited, The soil which exists 5-30 m from the soil surface of a wetland, the soil which exists 0.5-250 m from the seabed surface, etc. can be used preferably.

As the aqueous solvent, water; acidic aqueous solution such as dilute hydrochloric acid; aqueous alcohol such as aqueous ethanol can be used. Water from which chlorine is removed is preferable. The method for removing chlorine is not particularly limited, and examples thereof include a method of leaving at room temperature for several days, a method using a reducing agent such as ascorbic acid, and a method using an adsorbent such as activated carbon. The pH of the aqueous solvent is not particularly limited, but is preferably in the range of pH 6.0 to 8.0, more preferably in the range of pH 6.3 to 7.5.

A method for obtaining an aqueous solvent extract of humus is not particularly limited, but a method including the following steps (1) to (4) is preferable.

- (1) Treat the mixture of humus and aqueous solvent until the pH is 2.8 or less and the electrical conductivity is 400 mV or more,
- (2) Remove solids,
- (3) Leave the resulting supernatant at ambient temperature for a long time,
- (4) Filter.

In the above step (1), first, in a container such as a water tank, an aqueous solvent of 5 to 10 times (weight ratio) with respect to the humus is added to the humus while stirring to obtain a suspension. .

The resulting suspension is then treated at ambient temperature. In the present specification, the ambient temperature is a temperature of 20 to 45 ° C, preferably 25 to 40 ° C, more preferably 28 to 35 ° C.

The above treatment is preferably performed by repeating stirring and standing. Stirring may be performed to such an extent that the humus deposited at the bottom of the container is diffused into the aqueous solvent, and may be either continuous or intermittent. This treatment is preferably performed until the supernatant obtained by allowing the suspension to stand still has a pH of 2.8 or less, an electric conductivity of about 400 mV or more, and a temperature of 28 ° C. or more for 1 week or more. Such a state can usually be obtained in about 3 to 5 weeks after mixing the humus and the aqueous solvent. In this step, nutrient sources such as a nitrogen source and a phosphorus source can be added as desired.

The method for removing the solid matter in the step (2) is not particularly limited as long as it can separate the humus soil and the liquid and remove the humus soil, but may be performed by standing, centrifugation, or the like. it can. In the method of standing, the suspension is allowed to stand at 25 to 35 ° C. for about 150 to 240 hours to precipitate humus soil, and then only the supernatant is obtained. In order to remove the solid matter more reliably, the suspended matter may be further removed using a cloth or the like. The supernatant thus obtained has a pH of about 2.5 to 3.0.

Step (3) is performed by allowing the obtained supernatant to stand at ambient temperature for a long period of time. The long term may be about 180 to 500 days, preferably about 300 to 400 days. During this standing, the temperature may be constant or may vary. Usually, when it is kept at a temperature of 25 to 35 ° C. for 30 to 60 days and kept at a temperature of 5 to 15 ° C. for 30 to 60 days, an aqueous solvent extract of humus soil more preferable for use in an anticancer composition is obtained. Can do.

An aqueous solvent extract of humus can be obtained by further filtering (4) the liquid left standing for the above period. Filtration may be performed as long as suspended matter in the liquid can be removed. For example, the filtration can be performed using two types of membrane filters having a pore diameter of 40 to 100 μm and 10 to 40 μm.

The aqueous solvent extract of humus obtained by the above method is a light brown, substantially odorless liquid having a pH of 2.0 to 3.0 and an electric conductivity of 350 to 500 mV.

In addition, the aqueous solvent extract of humus soil has a weight after freeze-drying of 0.5 to 1 g per 100 ml of the aqueous solvent extract of humus soil, and is adsorbed through the DAX-8 resin column (fulvic acid). The weight after freeze-drying is 0.001 g or less per 100 ml of the aqueous solvent extract of humus.

The aqueous solvent extract of the above humus soil preferably contains the following components in 1 liter.

Calcium 200-300 ppm  
Sulfur 1000-1500 ppm  
Iron 10-50 ppm  
Zinc 1-8 ppm  
Copper 0.1-1 ppm  
Sodium 80-100 ppm  
Manganese 5-10 ppm  
Magnesium 80-100 ppm  
Aluminum 300-400 ppm  
Silicon 30-40 ppm  
Nickel 0.1-1 ppm  
Strontium 0.5-5 ppm  
Yttrium 0.1-1 ppm  
Lithium 0.1-1 ppm

Furthermore, the aqueous solvent extract of humus can contain a trace amount of boron, lanthanum, scandium, selenium, and the like.

Each of these components can be measured using a high frequency induction analyzer (ICP).

The aqueous solvent extract of the above humus can be used after being produced by the above method and then concentrated to an appropriate volume. The degree of concentration is not particularly limited as long as moisture remains. For example, the concentration can be used by concentrating to 90% or less, preferably 80% or less, more preferably 70% or less of the volume before concentration. .

The aqueous solvent extract of the above humus can be used as it is, concentrated or diluted with a suitable medium to obtain the anticancer composition of the present invention. The medium used for dilution is not particularly limited as long as it is harmless to the human body and does not impair the anticancer properties of the composition of the present invention, and water is preferably used.

To the anticancer composition, additives such as a preservative (for example, methyl p-hydroxybenzoate, propyl p-hydroxybenzoate, sorbic acid), a coloring agent, and a fragrance should be added within a range that does not impair the anticancer property. Can do.

The intake amount of the anticancer composition of the present invention is not particularly limited because the composition is harmless to the human body, but if the composition is ingested about 10 to 60 ml per day, it can prevent cancer and health. Can maintain and improve.

When the anticancer composition of the present invention is used as a medicament, it can be used as it is, concentrated or diluted with an appropriate medium and used in the form of a liquid.

The above-mentioned pharmaceutical preparation may contain an additive added to a normal pharmaceutical solution. Such additives include pharmaceutically acceptable additives such as suspending agents (e.g. sorbitol, syrup, methylcellulose, glucose syrup, gelatin edible fat), emulsifiers (e.g. lecithin, sorbitan monooleate or Gum arabic), non-aqueous excipients (eg almond oil, fractionated coconut oil or oily esters of alcohols such as glycerin, propylene glycol or ethyl alcohol), preservatives, colorants or fragrances.

The food containing the anticancer composition of the present invention is not particularly limited. In addition to normal foods, foods intended to maintain health and promote health in a more positive sense than normal foods, such as health Examples include foods, functional foods, dietary supplements, supplements and foods for specified health use. Examples of such foods intended for health and health maintenance / promotion include liquid or semi-solid or solid products, specifically powders, granules, tablets, capsules, etc. Liquid form is preferred.

Examples of normal foods include beverages (soft drinks such as coffee, juice, tea drinks, milk drinks, lactic acid bacteria drinks, carbonated drinks, etc.); fermented foods (bread, miso, etc.); Confectionery (jelly, yokan, yogurt, etc.); processed products (soup, curry, beef bowl, miso soup, miso soup, etc.); seasonings (dressing, umami seasoning, etc.).

A normal food containing the anticancer composition of the present invention may be produced in the above-described food production process or by adding the composition of the present invention to the final product by mixing, coating, spraying, or the like. it can.

Example 1

The antitumor action against the mouse-derived tumor cell line L1210 was examined using an aqueous solvent extract of humus used in the present invention. Manufacturing method of aqueous solvent extract of humus soil Add pH 6.5 dechlorinated water with stirring to humus soil sampled at a point 20 m from the soil surface in Nagasaki Prefecture, at ambient temperature for 30 days, 2 times a day The mixture was left with stirring twice. Thereafter, the suspension was allowed to stand to obtain a supernatant, which was filtered with a cloth to remove the suspended matter, and allowed to stand at ambient temperature for 365 days. During this period, the maximum ambient temperature was 30 ° C., and the minimum temperature was 10 ° C. The obtained supernatant was filtered through a housing filter (manufactured by Cuno) having a pore size of 50 μm and 25 μm to obtain an aqueous solvent extract of humus soil. The pH of the aqueous solvent extract of the obtained humus soil is 2.8 ± 0.05 (measured with a pH meter 9620 manufactured by Horiba, Ltd.), and the electric conductivity is 400 mV or more (electric conductivity meter manufactured by Horiba, Ltd.). 9382-10D type). In addition, the lyophilized weight of the obtained humus soil per 100 ml of the aqueous solvent extract was 0.65 g, and the weight after lyophilization of the components adsorbed on the DAX-8 resin column (manufactured by Spelco) was 0.0002 g. there were.

Table 1 shows the results of measuring the aqueous solvent extract of this humus soil with a high-frequency induction analyzer (ICP, manufactured by PerkinElmer).

Test Method for Antitumor Action The aqueous solvent extract of humus obtained as described above was diluted with dechlorinated tap water to 3% and 10% (v / v). Further, dechlorinated tap water was used as a control. These were administered to female DBA2 mice (8 weeks old, average body weight 20 g) by drinking for 18 consecutive days, and then DBA2 mouse leukemia-derived cell line L1210 was inoculated subcutaneously at the back at 5 × 10 <sup>5</sup> cells / 0.1 ml. . Tumor growth was observed for 13 days, the major axis (mm) and minor axis (mm) of the tumor were measured, and the size of the tumor was calculated from the formula of major axis (mm) x minor axis (mm). During the observation period of the tumor size, the control and 3% and 10% (v / v) humus soil aqueous solvent dilutions were respectively administered.

Results The results of measuring the size of the tumor after inoculation with the mouse-derived tumor cell line L1210 are shown in FIG. As is clear from this figure, in the mice administered with control tap water, tumor growth was observed with the naked eye on day 7 after inoculation with the mouse-derived tumor cell line L1210, and the tumor size continued until day 13. Increased (n = 6).

In mice administered with 3% humus soil aqueous solvent extract dilution, tumor formation was observed on the 9th day after inoculation with the mouse-derived tumor cell line L1210, and the tumor size continued to the 13th day. Although increased, tumor size was significantly smaller compared to controls (Student t test, n = 5). The tumor size on day 13 after inoculation with the mouse-derived tumor cell line L1210 was about 40% of the control in the mice administered with 3% humus soil aqueous solvent extract.

In addition, the tumor size in mice administered with 10% humus soil aqueous solvent extract was not significantly different from the control.

Example 2

The aqueous solution extract of humus obtained in Example 1 was mixed in the production process of udon to produce udon.

The anticancer composition of the present invention, and the foods and medicines containing the composition are anticancerous and harmless to the human body, so that they can be prevented daily by ingesting them and maintain human health. Can be improved.

FIG. 1 is a graph showing the effect of inhibiting the growth of a mouse-derived tumor cell line L1210 by administration of an aqueous solvent extract of humus.

Patent Citations (2)

Publication number	Priority date	Publication date	Assignee	Title
<a href="#">JPH02268122A *</a>	1989-04-08	1990-11-01	Seisaku Shobara	Carcinostatic agent made by using soil
<a href="#">JP2000136140A *</a>	1998-10-29	2000-05-16	Ra Purata Koeki Kk	Aqueous solution containing substance extracted from humic soil
Family To Family Citations				

\* Cited by examiner, † Cited by third party

Cited By (4)

Publication number	Priority date	Publication date	Assignee	Title
<a href="#">JP2013032298A *</a>	2011-08-01	2013-02-14	Kinki Univ	Aqueous solvent extract of marine humus and its application
<a href="#">JP2013074864A *</a>	2011-09-30	2013-04-25	Yasunori Hori	Assured safe preservative using yttrium-containing mineral
<a href="#">JP5970118B1 *</a>	2015-08-18	2016-08-17	讓 平野	Production containing dietary fiber and method for producing the same
<a href="#">JP7055311B1 *</a>	2021-11-14	2022-04-18	株式会社日本ソフケン	Manufacturing method of humic substance solution and humic substance
Family To Family Citations				

\* Cited by examiner, † Cited by third party, ‡ Family to family citation

Similar Documents

Publication	Publication Date	Title
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<a href="#">CN108497099A</a>	2018-09-07	Fullerene be used to be prepared into the purposes of fullerene microcapsule powder
<a href="#">KR100893350B1</a>	2009-04-14	Method for producing the fermented liquid and powder extracted from macrophytes
<a href="#">CN105476020B</a>	2018-05-15	A kind of vitamin D3Soft capsule and preparation method thereof
<a href="#">CN107088183B</a>	2019-05-21	A kind of cosmetic material and preparation method thereof
<a href="#">CN102665452A</a>	2012-09-12	Extracts and beverages containing 2, 5-piperazinedione, 3, 6-bis (phenylmethyl) -, (3s, 6s) -
<a href="#">CN104055112A</a>	2014-09-24	Preparation method for sanguinolaria blood-enriching product
<a href="#">CN103271393A</a>	2013-09-04	Health care curcumin-sea-buckthorn beverage and preparation method thereof
<a href="#">JP2006111537A</a>	2006-04-27	Carcinostatic composition and food containing the same
<a href="#">CA2990533A1</a>	2016-12-29	A highly concentrated seawater mineral extract and uses thereof
<a href="#">CN105794987B</a>	2019-05-21	Curcumin walnut beverage and preparation method thereof
<a href="#">JP2011148776A</a>	2011-08-04	Liquid preparation composition
<a href="#">KR101393598B1</a>	2014-05-09	Healthy food composition for healing a hangover
<a href="#">JP2008050349A</a>	2008-03-06	Beverage comprising branched-chain amino acid formulated therein
<a href="#">KR101871771B1</a>	2018-06-27	A method for manufacturing a beverage containing an effective ingredient of a snail and a functional material
<a href="#">JP2008195668A</a>	2008-08-28	Composition for preventing infection of protozoan, and method for preventing infection
<a href="#">KR100568604B1</a>	2006-04-07	A preparation method of canned aquatic products
<a href="#">CN103892391A</a>	2014-07-02	High-selenium-content germanium ganoderma ginseng detoxification and oxygenation fitness beverage
<a href="#">CN106890202A</a>	2017-06-27	Purslane extract solution and preparation method thereof
<a href="#">JP2007014281A</a>	2007-01-25	Liquid food composition ingestible by spraying and method for producing the same
<a href="#">JP4834298B2</a>	2011-12-14	Fish feed and fish breeding method
<a href="#">KR20010069433A</a>	2001-07-25	Hernacium Erinaceum use health assistance food
<a href="#">CN109198339A</a>	2019-01-15	A kind of krill fat beverage
<a href="#">JP2009256285A</a>	2009-11-05	Aqueous liquid agent for oral administration
<a href="#">JP4167849B2</a>	2008-10-22	Fruit oil extracted from plant fruit, its extraction method, pharmaceutical composition and use thereof
<a href="#">KR20020026295A</a>	2002-04-09	A method for forming a composition of fish and meat washing salt using ocher longevity, ocher salt (salt baked in ocher earthenware) and green tea leaves

## Priority And Related Applications

### Priority Applications (1)

Application	Priority date	Filing date	Title
<a href="#">JP2004297828A</a>	2004-10-12	2004-10-12	Carcinostatic composition and food containing the same

### Applications Claiming Priority (1)

Application	Filing date	Title
<a href="#">JP2004297828A</a>	2004-10-12	Carcinostatic composition and food containing the same

## Legal Events



















Date	Code	Title	Description
2007-10-05	A621	Written request for application examination	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A621 <b>Effective date:</b> 20071004
2007-11-13	A711	Notification of change in applicant	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A711 <b>Effective date:</b> 20071112
2007-11-27	A521	Written amendment	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A523 <b>Effective date:</b> 20071029

2007-12-12	A521	Written amendment	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A821 <b>Effective date:</b> 20071112
2008-01-25	A521	Written amendment	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A523 <b>Effective date:</b> 20080124
2008-03-07	A711	Notification of change in applicant	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A711 <b>Effective date:</b> 20080306
2008-03-20	A711	Notification of change in applicant	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A711 <b>Effective date:</b> 20080319
2008-04-05	A521	Written amendment	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A523 <b>Effective date:</b> 20080306 <b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A821 <b>Effective date:</b> 20080306
2008-04-17	A521	Written amendment	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A821 <b>Effective date:</b> 20080319
2008-05-31	A521	Written amendment	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A523 <b>Effective date:</b> 20080501
2011-01-12	A131	Notification of reasons for refusal	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A131 <b>Effective date:</b> 20110111
2011-07-13	A02	Decision of refusal	<b>Free format text:</b> JAPANESE INTERMEDIATE CODE: A02 <b>Effective date:</b> 20110712

### Concepts

machine-extracted

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Name	Image	Sections	Count	Query match
 mixture		title,claims,abstract,description	29	0.000
 food		title,claims,abstract,description	17	0.000
 cancerostatic		title,abstract	3	0.000
 soil		claims,abstract,description	28	0.000
 humus		claims,description	47	0.000
 aqueous solvent		claims,description	38	0.000
 anti-cancer		claims,description	20	0.000
 supernatant		claims,description	8	0.000
 stirring		claims,description	6	0.000
 solid		claims,description	5	0.000
 filtration		claims,description	4	0.000
 iron		claims,description	4	0.000
 active ingredient		claims,description	3	0.000
 inorganic mineral		claims,description	3	0.000
 mineral		claims,description	3	0.000
 aluminium		claims,description	2	0.000
 aluminum		claims,description	2	0.000
 calcium		claims,description	2	0.000

▀ calcium	claims,description	2	0.000
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▀ iron	claims,description	2	0.000
▀ magnesium	claims,description	2	0.000
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▀ sulfur	claims,description	2	0.000
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▀ sulfur	claims,description	2	0.000
▀ liquid	abstract,description	8	0.000
▀ cancer	abstract,description	6	0.000
▀ suppression	abstract,description	3	0.000
▀ proliferation	abstract	1	0.000
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