Health food and medicine

Abstract

<P>PROBLEM TO BE SOLVED: To provide a health food and a medicine, capable of sufficiently taking polysaccharide components which are especially noticed among active ingredients contained in sea algae, inhibiting active oxygen while securing the flowing property of the blood, and also obtainng an antibacterial activity. <P>SOLUTION: The health food and the medicine are provided by mixing 50% fucoidan extract, 5% fulvic acid and 45% water, and taking the mixture by drinking. <P>COPYRIGHT: (C)2006,JPO&NCIPI

JP2006087393A

Japan

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Other languages: Japanese

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Worldwide applications

2004 JP

Application JP2004279599A events

2004-09-27	Application filed by GLOBAL SCIENCE KK
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Info: Patent citations (2), Non-patent citations (1), Cited by (10), Legal events, Similar documents, Priority and Related Applications

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Claims (6)

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translated from Japanese

A health food comprising at least fulvic acid and fucoidan. The health food according to claim 1, wherein fucoidan is extracted from mozuku as a raw material. The health food according to claim 1 or 2, which is an aqueous fucoidan fulvic acid solution containing at least 30% to 98% fucoidan extract, 2% to 70% fulvic acid, and 0 to 68% water. The health food according to claim 3, wherein 50% fucoidan extract, 5% fulvic acid solution, and 45% water are mixed. A drug comprising at least fulvic acid and fucoidan. 6. The drug according to claim 5, wherein fucoidan is extracted from mozuku as a raw material.

Description

translated from Japanese

The present invention relates to a drug containing a plant component and a health food.

In recent years, adverse effects associated with the westernization of eating habits have been pointed out, and the effects of ingesting a large amount of vegetables and seaweeds have attracted attention under the Westernized eating habits.

However, it was difficult to actually consume a lot of vegetables and seaweeds, and even if they were conscious, they tended to be insufficient. A variety of health foods have emerged for efficient intake of ingredients that tend to be deficient in the daily dietary environment. Not only the nutrients contained in vegetables, but also those that focus on dietary fiber and health maintenance In recent years, attention has been focused on what is mainly contained in seaweeds while playing an important role.

Fucoidan, which is a polysaccharide component contained in seaweeds, has been attracting attention as a means to solve such shortage of necessary nutrients. “Fucoidan” is mainly composed of a substance in which saccharides called fucose are the main constituent sugars and uronic acid is linked.

Similarly, the stickiness of blood accompanying the westernization of eating habits has also become a problem, and the importance of ensuring blood fluidity has been recognized in order to prevent the occurrence of cerebral infarction and the like. Yes.

Furthermore, various harmful effects of active oxygen have been pointed out, and methods for suppressing the influence of active oxygen have been sought.

However, many of these conventional drugs and health foods contain only a lot of dietary fiber and are concentrated only on extracts extracted from animals and plants, and the use of active ingredients contained in seaweeds has just begun. It is. In particular, many contained only a specific active ingredient alone, and few obtained a composite effect.

The present invention has been made in view of the above-mentioned problems, can sufficiently ingest the polysaccharide component that has been particularly noted among the active ingredients contained in seaweed, and suppresses active oxygen while ensuring blood fluidity, Moreover, it aims at providing the chemical | medical agent and health food which can also obtain an antimicrobial effect.

The present invention includes, for example, the following configurations in order to achieve the above-described object.
That is, a health food comprising at least fulvic acid and fucoidan is provided.

And, for example, the contained fucoidan is characterized by extracting mozuku as a raw material. For example, it is a fucoidan fulvic acid aqueous solution mixed with at least 30% to 98% fucoidan extract, 2% to 70% fulvic acid, and 0 to 68% water.

Further, for example, 50% fucoidan extract, 5% fulvic acid solution, and 45% water are mixed.
Or it is set as the chemical | medical agent characterized by containing a fulvic acid and a fucoidan at least. For example, fucoidan is a drug extracted from mozuku as a raw material.

The present invention provides a health food and a drug capable of sufficiently ingesting a polysaccharide component that has attracted particular attention among active ingredients contained in seaweed, and also capable of suppressing active oxygen while ensuring blood fluidity. Can do.

Hereinafter, the present invention will be described in detail. However, the scope of the present invention is not limited to the examples described below.

In one embodiment according to the present invention, first of all, attention is paid to “fucoidan” which is a polysaccharide component contained in seaweeds as a solution to solve the shortage of intake of necessary nutrients from seaweeds, and “fucoidan” as seaweed components. As the main component. “Fucoidan” is a polysaccharide mainly composed of a material in which a sugar called fucose contained in seaweeds is a main sugar and uronic acid is bound thereto.

A feature of fucoidan is that it contains a sulfate group, and the sulfate group binds to fucose, which is a sugar, to form sulfated fucose and is contained in fucoidan.

This fucoidan has been confirmed to be contained in brown algae, and is contained in a slimy component that surrounds brown algae to protect itself from scratches.

The brown algae containing fucoidan include “Okinawa Mozuku” growing in the area from Iriomote Island to Amami Oshima, “Wakame Mekabu” growing on the coast of Japan and the Korean Peninsula, Northern Europe and Hokkaido. , “Hibamata” growing on the coast of the Pacific Ocean, etc., “Gagome Kombu” growing on the southwest coast of Hokkaido, and the like.

Among them, Okinawa mozuku has a very high fucoidan content compared to other brown algae and other mozuku, and fucoidan has a high purity (about 90% of Okinawa mozuku-containing polysaccharides are fucoidan). Fucoidan can be extracted easily and efficiently. For this reason, in this embodiment, fucoidan extract extracted from Okinawa mozuku is used.

Secondly, in order for “fucoidan” to exert its effect, it must be maintained in a state that is most easily ingested, for example, in a low molecular weight state. “Fulvoic acid” has been found as one that can secure the fluidity of blood and can complement each effect, and it is included with “fucoidan”.

This “fulvic acid” is contained in humic substances. The humic substance refers to a fraction obtained by extracting soil with an alkali such as NaOH, or a fraction adsorbed on natural water to the XAD resin and eluted with a dilute aqueous alkali solution.

This humic substance is classified into “humic acid” that is completely insoluble in water, “humic acid” that precipitates under acidic conditions, and “fulvic acid” that is water-soluble under both acidic and alkaline conditions.

The inventor pays attention to the fulvic acid in this, makes it possible to effectively use this fulvic acid effect, and takes the fucoidan / fulvic acid aqueous solution mixed with the above fucoidan and the fulvic acid as a health food. It has also been found that excellent efficacy can be obtained as a medicinal material having nourishing tonic effect and health promotion effect.

Specifically, the fulvic acid is mixed with the fucoidan extract, and water is added to the mixture to make an aqueous fucoidan / fulvic acid solution. And it was discovered that the following excellent effects can be obtained by taking this medicine.

The process for preparing this fucoidan / fulvic acid aqueous solution is not limited to the above example. First, a strong sterilizing fulvic acid aqueous solution is prepared, and a predetermined percentage of fucoidan extract or fucodyne powder is added thereto. A fucoidan / fulvic acid aqueous solution may be prepared by mixing with each other.

When the ingestion state is drinking, fucodyne extract and fulvic acid solution may be melted with, for example, natural water, and mixed with other fruit extract or vegetable extract as required to facilitate drinking.

Furthermore, the present invention is not limited to the above steps, and a fucoidan aqueous solution may be prepared first, and an appropriate amount of fulvic acid may be added thereto.

When making other active ingredients further added, for example, all the ingredients may be mixed from the beginning and then added with water, or they may be added one by one in order. There is no limitation.

Fucoidan extracted from Okinawa mozuku is not limited in its form as long as it has been processed so as to be in a low molecular weight state that can be easily ingested, even if it is extracted from boiled Okinawa mozuku. You may use what dried the extract and was made into the powder form.

Furthermore, in addition to drinking, the ingestion form may be in the form of tablets or capsules and may be taken orally. In this case, fucoidan is powdered or granular, and the above-mentioned fulvic acid is also powdered or granular. It may be mixed with the one made into a capsule and enclosed in a capsule, or it may be smelted as necessary and formed into a tablet.

As an ingestion method in this case, the mixture may be smelted as it is to be solidified and taken as a tablet, or it may be taken together with a liquid as a granular powder.

Alternatively, a fulvic acid aqueous solution having a predetermined concentration may be prepared, and a predetermined amount of fucoidan powder may be added and melted to make an aqueous solution, which may be drunk.

The fucoidan / fulvic acid aqueous solution of the present embodiment is, for example,
Fucoidan extract 30% -98%
Fulvic acid 2% -70%
Water 0-68%
Range.

Although it can be in the above range, it is particularly desirable to make an aqueous solution mixed at the following ratio.
Fucoidan extract 50%
Fulvic acid 5%
Water 45%

Since taking the fucoidan / fulvic acid mixture containing the above-mentioned fucoidan / fulvic acid aqueous solution has not been performed in the past, it is necessary to confirm safety in use including drinking. In particular, the safety and efficacy of fulvic acid needed to be confirmed experimentally, so we asked multiple laboratories including the Japan Food Analysis Center to obtain the following test results.

[Test results of fulvic acid aqueous solution]
(Safety test results by Japan Food Analysis Center)
・ Acute oral toxicity test

An acute oral toxicity test using mice according to the OECD chemical toxicity test guideline (1987) was conducted. As a result of single oral administration of the specimen to male and female mice at a dose of 50 ml / Kg, no deaths were observed, and no abnormality was observed at necropsy. From this, it was confirmed that the LD50 value by single oral administration in the mouse of the specimen was a test result considered to be 50 ml / kg or more for both males and females, and the safety was confirmed.

-Primary skin irritation test No irritant reaction was observed at each observation time on intact skin. On the other hand, in the hurt skin, very mild erythema (score 1) was observed in 2 cases in 1 hour after removing the patch, but it disappeared in 24 hours after removing the patch. In the remaining example, no stimulus response was observed at each observation time. From the above, in the skin primary irritation test, P.I. I. I. Was 0.1.

-Eye irritation test About the sample, the eye irritation test using the rabbit according to the OECD chemical substance toxicity test guideline (1987) was done. As a result of inspecting 0.1 ml of the sample in one eye of 3 rabbits, redness of the conjunctiva occurred in 2 cases 1 hour after instillation, 1 case in 24 hours and 48 hours, and 1 case in 24 hours after instillation in the control eye. Was observed, but disappeared by 72 hours. The highest average total score calculated during the observation period according to the Draize method was 1.3 (1 hour after instillation) for the test eye and 0.7 (24 hours after instillation) for the control eye. From the above results, in the eye irritation test using rabbits, the specimen was evaluated to be in the category of “non-irritant”.

(Safety test by Creative Strategies Inc.)
-Continuous skin irritation test with rabbits Three New Zealand white rabbits were provided with an injured site and a healthy site, and 0.5 ml of each test substance was administered. This treatment was performed 5 days per week and continued for 2 weeks. The test site remained “open” and erythema / edema and other reactions were observed before each application and approximately 24 hours after each week of final application. As a result, very mild erythema was observed in 2 birds, and a slight irritation was induced in the rabbit test.

48-hour patch test Using the upper back between the shoulder ribs as the test site, a sample with a sufficient amount to cover the contact surface is (3/4 inch) x (3/4 inch) of a transparent adhesive wrapping bag. The patch was applied to the absorbent pad portion, and this patch was attached to the test site as an occlusive patch. The samples were contacted with the skin for 48 hours, and the change in the test site was visually evaluated. A score of “0” was given when no skin changes observable with the naked eye were obtained. After 72 hours, the test site was re-evaluated. As a result, it was confirmed that clinically significant skin irritation was not exhibited.

(Active oxygen scavenging property confirmation test)
As a feature of the fulvic acid aqueous solution, it was confirmed that it had an erasing property of active oxygen.

Active oxygen was generated by a hypoxanthine-xanthine oxidase system, a sample to be measured was added thereto, and active oxygen scavenging activity was determined from the signal intensity of an ESR (electron spin resonance) spectrum obtained by using the spin trap method. At this time, a metal chelating agent (DETAPAC) was added to remove metal impurities.

As a result, the SOSA value was 0.87 unit / ml, and the measured value of the SOSA value of tap water was 0.2 unit / ml. It was.

(Blood fluidization test by drinking)
The following tests were conducted at the Food Engineering Department, Food Research Laboratory, Ministry of Agriculture, Forestry and Fisheries. First, using a cell microrheology measuring apparatus MC-FAN, 100 μl of fresh blood collected from heparin is preliminarily measured for a microchannel passage time of 1 μm in width (equivalent to a capillary).

Next, 100 μl of blood is newly voted 30 minutes after drinking 20-fold diluted fulvic acid, and the microchannel passage time of 1 μm width (equivalent to a capillary) is measured.

As a result, 3 of the 3 cases showed a tendency to shorten the passage time of 5 seconds. As a result, it became clear that the blood flow promoting effect was greatly affected.

Various causes have been pointed out, such as blood flow disorders due to fatty acids such as blood cholesterol, blood flow disorders due to red blood cell deformation, red blood cell concentration, plasma viscosity, platelet failure, etc. It is known that it causes high blood pressure, adult diseases, etc., and it can be said that the smooth flow of blood due to the intake of the health food of this embodiment is a remarkable effect.

From the above inspection results, it was possible to confirm the safety of the fucoidan / fulvic acid aqueous solution of the present embodiment.

(Virus inactivation test)
For three types of viruses, influenza virus, HSV-1 virus, and AIDS virus (HIV-1), mix the virus solution and fulvic acid solution in equal amounts and leave in the greenhouse for 0, 30 and 120 minutes. If the amount of infectious virus in the mixed solution is quantified by diluting the mixed solution to various concentrations with the culture solution later and infecting the virus, the infectivity is reduced to 1/100 at the moment of mixing. It was confirmed that the reaction was almost completely inactivated at 98.6% at the time of 30 minutes at room temperature and inactivated to the detection limit or less at 120 minutes at room temperature.

(Antimicrobial test)
The following antibacterial activity tests were conducted at the Japan Food Analysis Center.
For E. coli, Staphylococcus aureus, MRSA (methicillin resistant Stahirococcus aureus), Pseudomonas aeruginosa, and Salmonella, 50-600-fold dilutions, for example, 100-fold dilutions were made and tested for antibacterial performance. As a result, remarkable antibacterial activity was recognized in all the bacteria.

Moreover, the antibacterial activity test about test microbe MRSA and VRE was done using the protein catalyst. In the test, MRSA almost completely died within 24 hours in the fulvic acid solution compared to the control added with 3% / V% rabbit serum, and a remarkable antibacterial activity was confirmed even in a 100-fold diluted solution.

Further, VRE almost died out within 48 hours in the fulvic acid solution, and a remarkable antibacterial activity was confirmed even in the 10-fold and 100-fold dilutions.

Furthermore, the result of the therapeutic effect confirmation test mainly with fulvic acid of the aqueous solution of this embodiment is shown below. The following tests are all the results of a military hospital in the People's Republic of China.

(Therapeutic effect on duodenal ulcer)
289 human patients were given 20 ml of 0.25% sodium fulvic acid solution 3 times a day for 4 weeks. As a result, there were 191 (66.1%) patients with closed wounds, 72 (25%) with reduced ulcers, and 25 with no change. As a result, 0.25% sodium fulvic acid solution was confirmed to have an effect of closing the wound against the duodenal ulcer and an analgesic effect.

(Other results taken for adjustment of immune function)
This is an example of taking 10 ml to 60 ml 2 to 3 times a day.
For cancer, it was confirmed that it gives analgesia, appetite recovery, mental stability and refreshment.

For oral mucosal disease, the effects of reducing recurrence, shortening the treatment period, and relieving pain were confirmed.
For diabetics, reductions in blood glucose levels, recovery of mental state, relief of nerve pain, etc. were confirmed.

For children with asthma, reduction of symptoms and suppression of seizures can be confirmed, and for adult asthma patients, good effects can be confirmed with an inflammatory total difference, clearly reducing seizures, The reduction of the flame was confirmed.

For weak patients, the effects of improving sleep, increasing appetite, restoring physical strength, and mental stability were confirmed.
In any of the above cases, no side effects are observed.

Furthermore, as a result of continuously taking the liquid mixture of fucoidan and fulvic acid of the present embodiment example in the subject, it was confirmed that the improvement effects such as atopic dermatitis, obesity, stiff shoulders, constipation and the like were further improved. Furthermore, even when drinking alcohol, hangovers are eliminated and gastrointestinal health is maintained.

The effect of normalizing blood pressure, improving metabolic function, and improving natural healing power is remarkable due to the effect of making the blood smooth and antibacterial effect when continued to drink.

As described above, according to the present embodiment, it is possible to provide a completely new combination of fucoidan and fulvic acid that has no problem for human consumption.

Moreover, while ensuring safety, this product can not only efficiently consume nutrients that are often deficient in the normal diet, but also realizes virus inactivation characteristics and antibacterial properties, and The effect of improving blood fluidity that smoothes blood flow can also be realized.

For this reason, in addition to its use as a health food that efficiently ingests nutrients that are often deficient in the normal diet, it achieves virus inactivation characteristics, antibacterial properties, and smoothes blood flow. Can improve fluidity, can be used as a nutritional tonic, circulatory organ drug, mouth cleansing agent, antibacterial agent, etc., with few side effects and excellent Effect.

Furthermore, the above explanation has mainly assumed health foods or drugs taken by humans. However, the present invention is not limited to foods and drugs taken by humans, and it can of course be used as animal feeds or animal drugs, as confirmed in animal experiments. .

Patent Citations (2)

Publication number	Priority date	Publication date	Assignee	Title
JPH10165114A *	1996-12-06	1998-06-23	Yoshio Itaya	Food to which fucoidan is added
JPH11225716A *	1998-02-18	1999-08-24	Morita Shokuzai Kaihatsu Kenkyusho:Kk	Production of drink or food
Family To Family Citations				

* Cited by examiner, † Cited by third party

Non-Patent Citations (1)

Title
株式会社ヒューマンエナジー研究所: "高純度低分子『フルボフコイダン』をヒューマンエナジー研究所が9月25日(土)より発売（特許申請中）", [ONLINE], JPN6008061574, 21 September 2004 (2004-09-21), ISSN: 0001195590 *

* Cited by examiner, † Cited by third party

Cited By (10)

Publication number	Priority date	Publication date	Assignee	Title
JP2006232785A *	2005-02-28	2006-09-07	Univ Of Tsukuba	Type i allergy inhibitor using fulvic acid and method for inhibiting onset of type i allergy
JP2008222686A *	2007-03-16	2008-09-25	Rofutei:Kk	Pharmaceutical and functional food imparting blood fluidity ameliorating activity
JP2010150241A *	2008-11-20	2010-07-08	Kaisanbutsuno Kimuraya:Kk	Agent for reducing acetaldehyde and ethanol
WO2010095690A1 *	2009-02-18	2010-08-26	Hasegawa Yukio	Blood flow improving agent
JP2012107002A *	2010-10-27	2012-06-07	Yakult Honsha Co Ltd	Stress reliever
CN105079667A *	2015-07-30	2015-11-25	孙中	Traditional Chinese medicine combination used for treating children's typhoid fever and tachypnea
US20160008417A1 *	2014-04-08	2016-01-14	Christopher Vandecar	Plant and Animal Extracts and Related Methods
JP5970118B1 *	2015-08-18	2016-08-17	譲 平野	Production containing dietary fiber and method for producing the same
JP6120342B1 *	2016-03-08	2017-04-26	株式会社スタイルアンドバリュージャパン	Beauty composition
US11292731B2	2017-02-02	2022-04-05	Christopher Vandecar	Method and apparatus for treating contaminated fluid medium
Family To Family Citations				

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

Similar Documents

Publication	Publication Date	Title
JP2006087393A	2006-04-06	Health food and medicine
Patel et al.	2008	Safety assessment of pomegranate fruit extract: acute and subchronic toxicity studies
Viuda-Martos et al.	2010	Pomegranate and its many functional components as related to human health: a review
Yakubu et al.	2015	Antidiarrhoeal activity of Musa paradisiaca Sap in Wistar rats
WO2012115954A2	2012-08-30	Nutritional composition
Moodley	2017	Acute toxicity of Moringa oleifera leaf powder in rats
Sasi et al.	2021	Garlic (Allium sativum L.) bioactives and its role in alleviating oral pathologies
Karau et al.	2012	Phytonutrient, mineral composition and in vitro antioxidant activity of leaf and stem bark powders of Pappea capensis (L.)
Salla et al.	2020	A comparative study on the role of Omani honey with various food supplements on diabetes and wound healing
EP3672589A1	2020-07-01	Combination product for relieving the symptoms associated with upper respiratory tract infections
AU2016307998B2	2019-02-21	Composition comprising tannins
Krishnaveni	2014	In vitro antioxidant activity of Terminalia catappa nuts
Ahirwar et al.	2019	Antioxidant and Hepatoprotective Activity of Root extract of Baliospermum montanum (Willd) Muell Arg
WO2010075611A1	2010-07-08	Composition comprising proanthocyanidin, proteolytic enzyme and aloe vera/agave species substance
KR101645721B1	2016-08-05	Composition comprising mastic for preventing and treating gastric diseases
Banik et al.	2019	Phytochemistry, health benefits and toxicological profile of Aloe
JP2017531694A	2017-10-26	Chinese medicine preparation for sickness
KR20150078613A	2015-07-08	Anti-allergy composition comprising the extracts of aloeswood and concentratedunderground water as an active ingredient
FR3080989A1	2019-11-15	LIQUID COMPOSITION COMPRISING AN EXTRACT OF CASSIS LEAVES AND CONCENTRATED APPLE JUICE
JP2006219376A	2006-08-24	Urease inhibitor
JP2008156256A	2008-07-10	Oral administration composition
Bakry et al.	2017	Impact of plant extracts on parasitological and histological parameters of albino mice infected with Schistosoma mansoni
Ferreira et al.	2022	Natural Products for the Prevention and Treatment of Oral Mucositis—A Review
Okafor	2017	Effects of Oral Administration of Leaf Extract of Uvaria Chamae (Mmimi Ohia) in Albino Wistar Rats
MUKUNDI	2015	Antidiabetic activity and safety of aloe volkensii, Acacia nilotica, Euclea divinorum, Rhoicissus tridentata, Cynanchum viminale and Urtica dioica in mice

Priority And Related Applications

Priority Applications (1)

Application	Priority date	Filing date	Title
JP2004279599A	2004-09-27	2004-09-27	Health food and medicine

Applications Claiming Priority (1)

Application	Filing date	Title
JP2004279599A	2004-09-27	Health food and medicine

Legal Events

Date	Code	Title	Description
2007-06-06	A621	Written request for application examination	**Free format text**: JAPANESE INTERMEDIATE CODE: A621 **Effective date**: 20070605
2008-11-20	A977	Report on retrieval	**Free format text**: JAPANESE INTERMEDIATE CODE: A971007 **Effective date**: 20081120
2008-12-09	A131	Notification of reasons for refusal	**Free format text**: JAPANESE INTERMEDIATE CODE: A131

			Effective date: 20081209
2009-04-07	A02	Decision of refusal	**Free format text**: JAPANESE INTERMEDIATE CODE: A02 **Effective date**: 20090407

Concepts

machine-extracted

Download Filter table

Name	Image	Sections	Count	Query match
health food		title,claims,abstract,description	17	0.000
drug		title,claims,abstract,description	14	0.000
Fucoidan		claims,abstract,description	50	0.000
3,7,8-trihydroxy-3-methyl-10-oxo-1,4-dihydropyrano[4,3-b]chromene-9-carboxylic acid		claims,abstract,description	44	0.000
fulvic acid		claims,abstract,description	44	0.000
fulvic acid		claims,abstract,description	44	0.000
extract		claims,abstract,description	15	0.000
water		claims,abstract,description	10	0.000
drugs		claims,description	10	0.000
raw material		claims,description	4	0.000
Blood		abstract,description	14	0.000
blood		abstract,description	14	0.000
anti-bacterial		abstract,description	10	0.000
oxygen		abstract,description	9	0.000
oxygen		abstract,description	9	0.000
oxygen		abstract,description	9	0.000
drinking		abstract,description	7	0.000
drinking		abstract,description	7	0.000
feeding behavior		abstract,description	7	0.000
glycans		abstract,description	7	0.000
mixture		abstract,description	7	0.000
polysaccharide		abstract,description	7	0.000
polysaccharide		abstract,description	7	0.000
polysaccharides		abstract,description	7	0.000
active ingredient		abstract,description	6	0.000
Cryptophyta		abstract	1	0.000
inhibitory effect		abstract	1	0.000

Show all concepts from the description section