

USE OF CORDYCEPS CICADAЕ ACTIVE SUBSTANCE FOR IMPROVING VISUAL ACUITY

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

[0001] The present invention relates to a use of a *Cordyceps Cicadae* active substance and, in particular, to a composition prepared with *Cordyceps Cicadae* mycelium for improving visual acuity.

DESCRIPTION OF THE PRIOR ART

[0002] There are many causes of eye fatigue, including overuse of the eyes, unbalanced diet, presbyopia, astigmatism, lack of sleep or stress, etc., and the popularization of 3C products in modern society and the fast pace of life cause the probability of eye fatigue greatly increased. If the eyes are tired, the eyes will feel sore or painful, and if you do not pay attention to the improvement, the vision will decrease.

[0003] Generally speaking, the ways of relieving eye fatigue include eye hot compress or acupoint massage to relieve the conditions such as decreased vision and blurred vision. If the fatigue cannot be relieved for a long time and cause vision deterioration, it is necessary to wear refractive glasses to correct vision.

[0004] *Cordyceps cicadae* belong to an insect-borne fungus, also known as earth cicada flower, insect flower, cicada grass, Hu Chan, cicada fungus, cicada pupa, golden cicada flower, cicada velvet or silkworm velvet etc. *Cordyceps cicadae* are fungi of *Ascomycotina*, *Claricipiyales*, *Clavicipitaceae* and *Cordyceps*, which infect

larvae of cicada pupae or *Cicada flammate*, *Platypleura kaempfer*, *Cryptotympana pustulata* or *Platylomia pili* and causing them to die, thereby forming a flower bud-like seed seat on the front end of the cicada pupa or the head of the worm body, and hence being named *Cordyceps cicadae*. Natural wild *Cordyceps cicadae* are mostly produced in tropical and subtropical regions south of the Yangtze River, and there are also traces of wild *Cordyceps cicadae* fruiting bodies in some mountainous areas of Taiwan.

[0005] *Cordyceps cicadae* are precious traditional Chinese medicinal materials, which has been used as medicine for more than a thousand years. Modern pharmacological experiments have shown that *Cordyceps cicadae* and its artificial culture have obvious efficacies, such as immune regulation, nervous system regulation, anti-fatigue, sedation, analgesic and antipyretic effects, improvement in renal function, blood sugar reduction, blood pressure reduction, slowing down of heart rate, inhibition of atherosclerosis formation, anti-tumor, anti-radiation and nourishing and strengthening functions. However, no studies have shown that *Cordyceps cicadae* can improve visual acuity.

SUMMARY OF THE INVENTION

[0006] The present invention provides a use of a *Cordyceps Cicadae* active substance, which is used to manufacture a composition for improving visual acuity. A preparation method of the *Cordyceps Cicadae* active substance includes the following steps:

[0007] (a) culturing a *Cordyceps Cicadae* mycelium in a plate media at 15 to 35 °C for 2 to 10 days;

[0008] (b) inoculating the *Cordyceps Cicadae* mycelium of step (a) to a flask and proceeding with culturing at 15 to 35°C and a pH of 2 to 8 for 3 to 7 days; and

[0009] (c-1) inoculating the *Cordyceps Cicadae* mycelium of step (b) to a fermentation tank and proceeding with culturing with stirring at 15 to 35°C and a pH of 2 to 8 for 2 to 10 days to obtain a *Cordyceps Cicadae* mycelium fermentation liquid containing the *Cordyceps Cicadae* active substance; or

[0010] (c-2) inoculating the *Cordyceps Cicadae* mycelium of step (b) to a solid medium, proceeding with culturing with protection from light and air isolation for 3-7 days, followed by culturing under 12-hour light-dark cycle for 7 to 40 days for the *Cordyceps Cicadae* mycelium to overgrow in the solid medium and then exposure to air for 7 to 14 days to obtain a *Cordyceps Cicadae* fruiting body containing the *Cordyceps Cicadae* active substance.

[0011] In an embodiment, the *Cordyceps Cicadae* mycelium is selected from a *Cordyceps Cicadae* mycelium stored in Biological Resource Conservation and Research Center (BCRC) with a deposit number of MU30106.

[0012] In an embodiment, the preparation method of the *Cordyceps Cicadae* active substance further includes step (d) drying the *Cordyceps Cicadae* mycelium fermentation liquid of step (c-1) or the *Cordyceps Cicadae* fruiting body of step (c-2), followed by pulverization to obtain a *Cordyceps Cicadae* active substance powder.

[0013] In an embodiment, a method of drying the *Cordyceps Cicadae* mycelium fermentation liquid or the *Cordyceps Cicadae* fruiting body includes spray drying, hot air drying, drum drying and freeze drying.

[0014] In an embodiment, the culturing in the flask of step (b) is performed by shake culturing at a shake rate of 10 to 250 rpm.

[0015] In an embodiment, the fermentation tank is further fed with a gas, the gas includes air, oxygen, carbon dioxide, helium or a combination thereof, a tank pressure of the fermentation tank is 0.5 to 2.0 kg/cm², and a ventilation rate is 0.01 to 1.5 VVM in step (c-1).

[0016] In an embodiment, the culturing in the solid medium of step (c-2) is carried out under a condition with a relative humidity of 60 to 100%, a temperature of 15 to 35°C and a pH of 2 to 8.

[0017] In an embodiment, the composition is a pharmaceutical composition, and the pharmaceutical composition further comprises a pharmaceutically acceptable carrier, an excipient, a diluent or an adjuvant.

[0018] In an embodiment, the composition is a food additive.

[0019] In an embodiment, an administration method of the composition includes oral administration, drops and suppository.

[0020] In an embodiment, the composition is used to prepare a composition for improving distance vision.

In order to make the above-mentioned and other aspects of the present invention clearer, the following examples are given for description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. 1 illustrates the vision test results of *Cordyceps cicadae* mycelium fermentation liquid groups (samples of Example 1);

[0022] FIG. 2 illustrates the vision test results of *Cordyceps cicadae* fruiting body powder groups (samples of Example 2);

[0023] wherein * represents a significant difference ($P < 0.05$) before and after the test; ** represents a extremely significant difference ($P < 0.01$) before and after the test.

DETAILED DESCRIPTION OF THE EMBODIMENTS

Source of *Cordyceps cicadae* mycelium

[0024] The *Cordyceps Cicadae* mycelium used in this example is the fruiting body of Taiwan wild *Cordyceps Cicadae* obtained by collection, rather than the fruit. The fruiting bodies were isolated to obtain their mycelia and subcultured on plate medium. This strain has been identified by the Taiwan Food Industry Development Research Institute and confirmed that the gene sequence is *Cordyceps Cicadae*, and has been deposited in the Biological Resources Research Center (BCRC) of the Food Industry Development Research Institute, a consortium, with the deposit number MU30106. This strain is also deposited in the China General Microorganisms Collection and Management Center, and the deposit number is CGMCC No.10486. However, the *Cordyceps Cicadae* active substance of the present invention is not limited to those obtained from this strain, and other species of *Cordyceps Cicadae* strains can also be used.

Preparation of *Cordyceps cicadae* active substance - liquid fermentation mycelium

[0025] The *Cordyceps cicadae* active substances used in the present invention include two types: mycelium fermentation broth and fruiting body powder, both of which are obtained by mycelium culture, and the preparation method of mycelium fermentation broth is briefly introduced here.

[0026] The *Cordyceps cicadae* mycelium was inoculated on the plate medium and cultured at an appropriate temperature of 15-35 °C (preferably 25 °C) for 2 to 10 days, and the mycelium was scraped and inoculated in a flask, followed by incubation at 15-35°C (preferably 25°C) and pH 2 to 8 (preferably pH 4 to 7, more preferably pH 5.5) with a shaking speed of 10 to 250 rpm for 3 to 7 days. Afterwards, the flask culture was inoculated in the fermentation tank medium (the same as the flask medium) and cultured at 15-35 °C (preferably 25 °C) and pH 2 to 8 with a tank pressure of 0.5-2.0 kg/cm² and a stirring speed of 10 to 150 rpm or without stirring (air lift) under passage of air, oxygen, carbon dioxide, nitrogen or a mixture thereof (preferably air) at a ventilation rate of 0.01 to 1.5 VVM for 2 to 10 days to obtain a fermentation broth of *Cordyceps cicadae* mycelium. The fermentation broth included mycelium and clear broth. The above-mentioned culturing conditions are only examples and can be adjusted by the user according to the situation.

[0027] The formulations of the flask culture medium and the fermentation tank culture medium used in the present invention can be as what follows:

Ingredient	Content (wt%)
Comprehensive carbon and nitrogen source	0.01-5
Animal and plant-derived protein and its hydrolyzate	0.01-2
Yeast or malt extract (powder, paste)	0.001-2
Inorganic salt	0.0001-0.05
Carbohydrate	0.01-10

[0028] The comprehensive carbon and nitrogen source can be cereals (such as wheat flour) or beans (such as soy flour, mung bean flour, soybean flour, etc.). The inorganic salt can be magnesium sulfate, dipotassium hydrogen phosphate, potassium dihydrogen phosphate, iron sulfate and the like. The Carbohydrate can

be glucose, fructose, maltose, sucrose, and the like. It is particularly noted that the medium used in the present invention is not limited to the above-mentioned ingredients or proportions, and the user can adjust it according to the actual situation.

[0029] Drying of fermentation broth

[0030] The fermentation broth of *Cordyceps cicadae* mycelium can be further prepared into other dosage forms, such as lyophilized powder, through a drying step. The drying method includes, but is not limited to, spray drying, hot air drying, drum drying, freeze drying or other methods.

Preparation of *Cordyceps cicadae* active substance - solid-state cultured fruiting bodies

[0031] As mentioned above, the *Cordyceps cicadae* active substances used in the present invention include two types: mycelium fermentation broth and fruiting body powder, both of which are obtained by mycelium culture, and the preparation method of fruiting body powder is briefly introduced here.

[0032] The preparation method of part of the fruiting body powder is similar to the mycelium fermentation broth, and the mycelium needs to be first cultured on a plate and in a flask. First of all, the *Cordyceps cicadae* mycelium was inoculated on the plate medium and cultured at an appropriate temperature of 15-35 °C (preferably 25 °C) for 2 to 10 days, and the mycelium was scraped and inoculated in a flask, followed by incubation at 15-35°C (preferably 25°C) and pH 2 to 8 (preferably pH 4 to 7, more preferably pH 5.5) with a shaking speed of 10 to 250 rpm for 3 to 7 days.

[0033] Next, the mycelium cultured in the flask was inoculated into the solid medium and cultured under a relative humidity of 60 to 100%, a temperature of 15 to 35 °C and pH 2 to 8 with protection from light and air isolation for 3 to 7 days, in

which the amount of the solid medium was 20%-200% of the volume or weight of the mycelium. Afterwards, the culturing was carried out under 12-hour light-dark cycle for 7 to 40 days for the *Cordyceps Cicadae* mycelium to overgrow in the solid medium, followed by exposure to air under 12-hour light-dark cycle for 7 to 14 days to obtain a *Cordyceps Cicadae* fruiting body. Finally, the *Cordyceps Cicadae* fruiting body was harvested, dried and milled to form *Cordyceps Cicadae* fruiting body powder.

[0034] The drying method includes, but is not limited to, spray drying, hot air drying, drum drying, freeze drying or other methods.

[0035] The above-mentioned fermentation broth of *Cordyceps Cicadae* mycelium, powder of *Cordyceps Cicadae* mycelium fermentation broth (lyophilized powder) and *Cordyceps Cicadae* fruiting body (powder) all contain the *Cordyceps Cicadae* active substance of the present invention. The *Cordyceps Cicadae* mycelium powder (lyophilized powder) and *Cordyceps Cicadae* fruiting body (powder) can be further extracted to increase the concentration of the *Cordyceps Cicadae* active substance. In the following, the *Cordyceps Cicadae* active substance was prepared according to the above method, and biological experiments were carried out to evaluate its efficacy in improving visual acuity.

Example 1: Preparation of *Cordyceps cicadae* active substance - liquid fermentation culture

[0036] Strain: *Cordyceps Cicadae* mycelium deposited in the Biological Resource Research Center (BCRC) of the Food Industry Development Research Institute of a consortium with a deposit number of MU30106. This strain can be purchased from the deposit units, such as the official website of BCRC

(<https://www.bcrc.firdi.org.tw/>), and is easily available for people having ordinary skill in the art.

[0037] Plate culture: the mycelium was inoculated on a plate medium and cultured at 25°C for 5 days, and the medium was Potato Dextrose Agar (PDA).

[0038] Flask culture: the mycelium was scraped from the flat plate, inoculated in the flask, and cultured at 25 ° C and pH 5.5 with shaking on a shaking machine and a rotating speed of 120 rpm for three days using the following medium formulations.

[0039] Flask culture medium formulation:

Ingredient	Content (wt%)
Comprehensive carbon and nitrogen source	0.01-5
Animal and plant-derived protein and its hydrolyzate	0.01-2
Yeast or malt extract (powder, paste)	0.001-2
Inorganic salt	0.0001-0.05
Carbohydrate	0.01-10

[0040] Fermentation tank culture: the culture medium was the same as the flask culture medium. The flask culture was inoculated in the fermentation tank medium and cultured at 25 °C and pH 5.5 with a tank pressure of 1.0 kg/cm² and a stirring speed of 10 rpm under passage of air at a ventilation rate of 1.0 VVM for 5 days to obtain a fermentation broth of *Cordyceps cicadae* mycelium. The fermentation broth of *Cordyceps cicadae* mycelium was lyophilized to obtain *Cordyceps cicadae* mycelium lyophilized powder.

[0041] The present example adopted 20 metric tons of fermentation tanks to carry out fermentation tank cultivation, and the obtained *Cordyceps cicadae* mycelium fermented liquid was lyophilized to obtain about 320 kilograms of fermented liquid

lyophilized powder, which is the *Cordyceps cicadae* active substance that can be used to improve visual acuity.

Example 2: Preparation of *Cordyceps cicadae* active substance – solid-state culture

[0042] Strain: *Cordyceps Cicadae* mycelium deposited in the Biological Resource Research Center (BCRC) of the Food Industry Development Research Institute of a consortium with a deposit number of MU30106. This strain can be purchased from the deposit units, such as the official website of BCRC (<https://www.bcrc.firdi.org.tw/>), and is easily available for people having ordinary skill in the art.

[0043] Plate culture: the mycelium was inoculated on a plate medium and cultured at 25°C for 5 days, and the medium was Potato Dextrose Agar (PDA).

[0044] Flask culture: the mycelium was scraped from the flat plate, inoculated in the flask, and cultured at 25 ° C and pH 5.5 with shaking on a shaking machine and a rotating speed of 120 rpm for three days using the following medium formulations.

[0045] Flask culture medium formulation:

Ingredient	Content (wt%)
sucrose	3.0
Yeast extract	1.0
soy flour	1.0

[0046] The steps of the above-mentioned plate culture and flask culture were basically the same as that of Example 1, except that in this example the flask culture was inoculated in the solid media prepared according to the following table.

[0047] Solid medium formulation:

Ingredient	Content (wt%)
solid matrix	10 g (50 %)
- barley kernel	5 g
- oat	5 g
liquid medium	10 g (50 %)
- sucrose	2.0 %
- soy flour	1.0 %
- yeast extract	0.5 %
- magnesium sulfate	0.4 %
- histidine	0.10 %

[0048] In this solid-state culture medium, the material of the liquid culture medium was first dissolved in the liquid to homogenize, mixed with the solid matrix, and then sterilized together. After sterilization, the water would be lost, and finally a solid medium would be formed.

[0049] Cultivation condition: at first the solid-state medium of inoculated flask culture was cultured under a relative humidity of 75%, a temperature of 18 °C and pH 5 with protection from light and air isolation for 3 days. Next, the culturing was carried out under 12-hour light-dark cycle for 30 days for the mycelium to overgrow in the solid medium, followed by exposure to air under 12-hour light-dark cycle for 7 days to obtain a *Cordyceps Cicadae* fruiting body.

[0050] Harvesting of the fruiting body: The fruiting body of rod-shaped to bouquet-like shapes on the solid matrix plane was collected with tweezers, excluding the part of the cereal base fully covered with the grown mycelium. The collected artificially cultured fruiting bodies were dried by freeze-drying method to obtain the *Cordyceps Cicadae* active substance that can be used to improve visual acuity.

Example 3: Vision Measurement Experiment

[0051] The principle of vision measurement

[0052] Vision scale: The vision chart is designed based on the principle of viewing angle. The so-called viewing angle is the angle formed by the light rays emitted by two points outside the eye through the nodes in the eye. Under normal circumstances, the viewing angle formed by the minimum distance between two points that the human eye can distinguish is the minimum viewing angle, which is a minute of arc. The vision chart is designed in units of a minute of arc.

[0053] In the present example, the Snellen's illiterate E (with a test distance of 6 meters) vision chart was used to measure the visual acuity (distance vision) of the subject. This table is composed of 12 lines of "E" characters with different sizes and openings in different directions, and the visual acuity was measured from 0.1 to 1.5. Each line was marked with a number, and the subject's line of sight should be parallel to the line of 1.0 and 6 meters away from the vision chart. For detection, one eye was covered first, the direction of the "E" opening was identified with one eye from top to bottom until it cannot be identified, and the record was made. The two openings of the E symbol at vision 1.0 of Snellen's simple E vision chart mean a minute of arc. Therefore, when the subject can distinguish the symbol of vision 1.0, it means that the minimum identification angle can reach a minute of arc of a normal person.

[0054] Normal visual acuity should be above 1.0. If the tested subject can't see 0.1, he should move forward until he can see 0.1, and his vision will be " $0.1 \times \text{distance} / 5 = \text{vision}$ ". If he/she still can't see 0.1 within half a meter, the tested subject is allowed to identify the index for measurement of the manual, light perception, etc. Visual acuity is recorded according to examination conditions.

[0055] The vision chart is used to measure visual acuity, so vision is also called visual acuity. The main test is "central vision", that is, the visual acuity of the "fovea

of macula of retina”, so that the initial situation of visual function can be easily and quickly understood, which is of great significance to the clinical diagnosis and treatment of eye diseases.

[0056] *Cordyceps Cicadae* mycelium fermentation broth test (apply the sample of Example 1)

[0057] A total of eleven subjects aged between 20-40 years old were recruited, including nine females and two males, and all had myopia or astigmatism. Their degrees of myopia were between 50 to 700 degrees, of which two subjects were less than 100 degrees, seven subjects were between 100 to 500 degrees, and two subjects were between 500 to 700 degrees. Nine subjects had astigmatism, and their degrees are between 50 to 200 degrees, of which two subjects were less than 100 degrees, and seven subjects were between 100 to 200 degrees. No eye disease such as presbyopia, farsightedness or other obvious symptoms existed. During the measurement, two subjects used uncorrected visual acuity, and nine subjects used the corrected visual acuity of refractive glasses.

[0058] *Cordyceps Cicadae* fruiting body powder test (apply the sample of Example 2)

[0059] A total of 5 subjects aged between 20-40 years old were recruited, including 3 females and 2 males, and all had myopia or astigmatism. Their degrees of myopia were between 50 to 700 degrees, of which one subject was less than 100 degrees, three subjects were between 100 to 500 degrees, and one subject was between 500 to 700 degrees. Four subjects had astigmatism, and their degrees are between 50 to 200 degrees, of which one subject was less than 100 degrees, and three subjects were between 100 to 200 degrees. No eye disease such as presbyopia, farsightedness or other obvious symptoms existed. During the

measurement, one subject used uncorrected visual acuity, and four subjects used the corrected visual acuity of refractive glasses.

[0060] Test method

[0061] The visual acuity was assessed using the Snellen's illiterate E vision scale. When testing, one eye was covered first, the direction of the "E" opening was identified with one eye from top to bottom until it cannot be identified, and the record was made. Next, the other eye was covered and the testing was performed using the same steps. The recorded value was the pre-test value. Next, the subjects were given 0.85 ± 0.05 g of the *Cordyceps Cicadae* active substance samples of Example 1 or 2, which was taken along with boiled water. After 90 minutes, the test was performed again using the same visual inspection method, and the recorded value was the post-test value.

[0062] Test data analysis

[0063] The experimental data are expressed as Mean $\pm$ Standard Deviation (SD) of the experimental results. Paired sample t test is used to compare whether there is a difference between groups. If the p value is less than 0.05, it indicates that there is a statistically significant difference between groups. The results are shown in Table 1 (corresponding to FIG. 1) and Table 2 (corresponding to FIG. 2) below.

[0064] Table 1 Vision test results of *Cordyceps Cicadae* mycelium fermentation broth groups (samples of Example 1)

	Pre-test	Post-test	P value
Left eye	1.12 $\pm$ 0.20	1.25 $\pm$ 0.21*	0.01
Right eye	1.12 $\pm$ 0.16	1.31 $\pm$ 0.15**	0.00

[0065] Table 2 Vision test results of *Cordyceps Cicadae* fruiting body powder groups (samples of Example 2)

	Pre-test	Post-test	P value
Left eye	1.18 ± 0.20	1.32 ± 0.16*	0.04
Right eye	1.08 ± 0.11	1.38 ± 0.16**	0.00

[0066] From Table 1 and Table 2, it can be seen that the visual acuity of the left eye and the right eye of the subjects was improved after taking the *Cordyceps Cicadae* sample of Example 1 or 2 for 90 minutes. Therefore, the *Cordyceps Cicadae* active substance of the present invention does have the efficacy of improving visual acuity.

Example 4: Preparation of the composition

[0067] If the *Cordyceps Cicadae* active substance of this example is applied to medical purposes, the following aspects of Composition 1 are used as illustrative examples.

[0068] Composition 1: The lyophilized powder or fruiting body powder (20 wt%) of the *Cordyceps Cicadae* active substance of Example 1 or 2 was taken and thoroughly mixed with magnesium stearate (8wt%) as a lubricant and silica (7wt%) as a preservative, dissolved in pure water (65wt%), and stored at 4°C for later use. The aforementioned wt% refers to the proportion of each component in the total weight of the composition.

[0069] However, although the *Cordyceps Cicadae* active substance of Example 3 is administered orally, other methods such as drops, ointment smearing, etc. can also be used in practical application.

[0070] If the *Cordyceps Cicadae* active substance of the present disclosure is used in a liquid dosage form for food use, the following aspects of Composition 2 are used as illustrative examples.

[0071] Composition 2: The lyophilized powder or fruiting body powder (20 wt%) of the *Cordyceps Cicadae* active substance of Example 1 or 2 was taken and thoroughly mixed with benzyl alcohol (8 wt%) as a preservative, glycerin (7 wt%) as a diluent and sucrose (10 wt%) as a diluent, dissolved in pure water (55 wt%), and stored at 4 °C for later use. The aforementioned wt% refers to the proportion of each component in the total weight of the composition.

[0072] The above-mentioned embodiments are specific descriptions of several feasible examples of the present invention, but these examples are not intended to limit the present invention. People having ordinary skill in the art can perform equivalent implementations or modifications to these examples without departing from the technical spirit of the present invention. Therefore, the protection scope of the present invention should be based on the appended claims.

Deposit of biological material

[0073] Bioresource Collection and Research Center, Food Industry Research and Development Institute, Taiwan(ROC), 2013/11/25, MU30106.

CLAIMS

What is claimed is:

1. A use of a *Cordyceps Cicadae* active substance in manufacturing of a composition for improving visual acuity, wherein a preparation method of the *Cordyceps Cicadae* active substance includes the following steps:

(a) culturing a *Cordyceps Cicadae* mycelium in a plate media at 15 to 35°C for 2 to 10 days;

(b) inoculating the *Cordyceps Cicadae* mycelium of step (a) to a flask and proceeding with culturing at 15 to 35°C and a pH of 2 to 8 for 3 to 7 days; and

(c-1) inoculating the *Cordyceps Cicadae* mycelium of step (b) to a fermentation tank and proceeding with culturing with stirring at 15 to 35°C and a pH of 2 to 8 for 2 to 10 days to obtain a *Cordyceps Cicadae* mycelium fermentation liquid containing the *Cordyceps Cicadae* active substance; or

(c-2) inoculating the *Cordyceps Cicadae* mycelium of step (b) to a solid medium, proceeding with culturing with protection from light and air isolation for 3-7 days, followed by culturing under 12-hour light-dark cycle for 7 to 40 days for the *Cordyceps Cicadae* mycelium to overgrow in the solid medium and then exposure to air for 7 to 14 days to obtain a *Cordyceps Cicadae* fruiting body containing the *Cordyceps Cicadae* active substance.

2. The use of claim 1, wherein the *Cordyceps Cicadae* mycelium is selected from *Cordyceps sobolifera* mycelium stored in Biological Resource Conservation and Research Center (BCRC) with a deposit number of MU30106.

3. The use of claim 1, wherein the preparation method of the *Cordyceps Cicadae* active substance further includes step (d) drying the *Cordyceps Cicadae* mycelium fermentation liquid of step (c-1) or the *Cordyceps Cicadae* fruiting body of step (c-2), followed by pulverization to obtain a *Cordyceps Cicadae* active substance powder.
4. The use of claim 3, wherein a method of drying the *Cordyceps Cicadae* mycelium fermentation liquid or the *Cordyceps Cicadae* fruiting body includes spray drying, hot air drying, drum drying and freeze drying.
5. The use of claim 1, wherein the culturing in the flask of step (b) is performed by shake culturing at a shake rate of 10 to 250 rpm.
6. The use of claim 1, wherein the fermentation tank is further fed with a gas, the gas includes air, oxygen, carbon dioxide, helium or a combination thereof, a tank pressure of the fermentation tank is 0.5 to 2.0 kg/cm², and a ventilation rate is 0.01 to 1.5 VVM in step (c-1).
7. The use of claim 1, wherein the culturing in the solid medium of step (c-2) is carried out under a condition with a relative humidity of 60 to 100%, a temperature of 15 to 35°C and a pH of 2 to 8.
8. The use of claim 1, wherein the composition is a pharmaceutical composition, and the pharmaceutical composition further comprises a pharmaceutically acceptable carrier, an excipient, a diluent or an adjuvant.
9. The use of claim 1, wherein the composition is a food additive.
10. The use of claim 1, wherein an administration method of the composition includes oral administration, drops and ointment application.
11. The use of claim 1, wherein the composition is used to prepare a composition for improving distance vision.