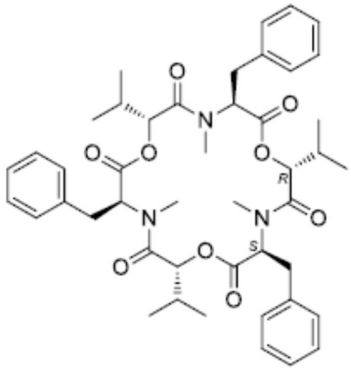
[0014] In one aspect, the present invention provides a method for treating an ocular disease, which comprises administering to a subject in need thereof a composition comprising a therapeutically effective amount of beauvericin having the following structural formula:



.

[0015] In further aspect, the invention also provides a use of beauvericin for preparing a medicament for treating an ocular disease.

[0016] In yet aspect, the invention provides a pharmaceutical composition for use in treating an ocular disease, which comprises in association with one or more pharmaceutically acceptable carriers and a therapeutically effective amount of beauvericin.

[0017] In one embodiment, the ocular disease is caused by eyes regression of neovascularization.

[0018] In some examples of the invention, the ocular disease is age-related macular degeneration (AMD), diabetic retinopathy (DR) or macular edema (ME). In preferable examples of the invention, the ocular disease is non-proliferation diabetic retinopathy (NPDR) or wet age-related macular degeneration (wet AMD).

[0019] It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the invention.

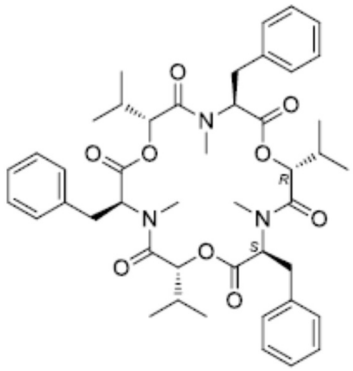
DETAILED DESCRIPTION OF THE INVENTION

[0020] Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood by a person skilled in the art to which this invention belongs.

[0021] In the present invention, some compounds were first discovered to have significant effect in treating an ocular disease such as age-related macular degeneration (AMD), diabetic retinopathy (DR) or macular edema (ME).

[0022] The present invention provides a method for treating an ocular disease, comprising administering to a subject in need thereof a composition comprising a therapeutically effective

amount of beauvericin, which is a cyclohexadepsipeptide consisting of three L-*N*-methylphenylalanine coupled with three D-2-hydroxyisovaleric acid, and has a structural formula:



[0023] The compounds in the present invention, such as beauvericin, may be synthesized, or isolated from fungi, such as *Cordyceps cicadae*, *Cordyceps sobolifera*, *Cordyceps cicaicola* and *Isaria fumosorosea*, according to conventional technologies or methods.

[0024] In the invention, the compound is proved to be effective for treating an ocular disease through inhibition of VEGF induced angiogenesis.

[0025] In one embodiment, the ocular disease is caused by eyes regression of neovascularization. Some examples of the ocular disease include age-related macular degeneration (AMD), diabetic retinopathy (DR) and macular edema (ME). In preferable examples of the invention, the ocular disease is non-proliferation diabetic retinopathy (NPDR) or wet age-related macular degeneration (wet AMD).

[0026] The term “therapeutically effective amount” as used herein refers to an amount of a compound or pharmaceutical agent which, as compared to a corresponding subject who has not received such amount, results in an effect in treatment, healing, prevention, or amelioration of a disease, disorder, or side effect, or a decrease in the rate of advancement of a disease or disorder. The term also includes within its scope amounts effective to enhance normal physiological function.

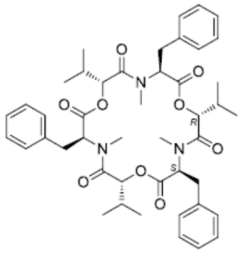
[0027] For use in therapy, the therapeutically effective amounts of the compound is formulated as a pharmaceutical composition for administration. Accordingly, the invention further provides a pharmaceutical composition comprising a therapeutically effective amount of the compound beauvericin and one or more pharmaceutically acceptable carriers.

[0028] The term "pharmaceutically acceptable carriers" used herein refers to a carrier(s), diluent(s) or excipient(s) that is acceptable, in the sense of being compatible with the other ingredients of the formulation and not deleterious to the subject to be administered with the

CLAIMS

What is claimed is:

1. A use of beauvericin in the manufacture of a medicament for treating an ocular disease selected from the group consisting of age-related macular degeneration (AMD), diabetic retinopathy (DR), and macular edema (ME), wherein the beauvericin has the following structural formula:



.

2. The use of claim 1, wherein the age-related macular degeneration (AMD) is wet age-related macular degeneration (wet AMD).

3. The use of claim 1, wherein the diabetic retinopathy (DR) is non-proliferation diabetic retinopathy (NPDR).