~~DISCLOSURE OF THE INVENTION~~SUMMARY

Problems to be Solved by the ~~Invention~~Disclosure

[0007]

The present ~~invention~~ disclosure was developed in view of the abovementioned situation, and an object of the present ~~invention~~ disclosure is to provide an external agent for skin or mucous membrane excellent in feeling during use despite containing petrolatum as a base.

Means for Solving the Problems

[0008]

The present inventors made a series of intensive studies for solving the problems described above. As a result, the inventors have found to provide an external agent for skin or mucous membrane excellent in feeling during use despite containing petrolatum as a base by emulsifying petrolatum and a functional component using specific particles of a polycondensation polymer or vesicles, to accomplish the present ~~invention~~disclosure. Specifically, the present ~~invention~~ disclosure provides the following.

[0008a]

In one aspect, there is provided an external agent for skin or mucous membrane, comprising:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and a water-insoluble functional component phase, as an inner phase, comprising a water-

insoluble functional component, and an aqueous phase as an outer phase,

wherein particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase, and at an interface between the water-insoluble functional component phase and the aqueous phase.

[0008b]

In another aspect, there is provided an external agent for skin or mucous membrane, comprising:

an oil phase, as an inner phase, that consists of petrolatum and a water-insoluble functional component or is a liquid or a semi-solid comprising petrolatum and a water-insoluble functional component with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase,

wherein particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase.

[0008c]

In another aspect, there is provided an external agent for skin or mucous membrane, comprising:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase, as an outer phase, comprising a water-soluble functional component,

wherein particles of a polycondensation polymer having a

hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase.

[0008d]

In another aspect, there is provided a method for producing an external agent for skin or mucous membrane, the method comprising:

adding a water-soluble functional component and/or a water-insoluble functional component to a base for an external agent for skin or mucous membrane, and mixing the water-soluble functional component and/or the water-insoluble functional component with the base,

wherein the base comprises:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase, and particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance,

wherein a part of the particles and/or the vesicles are present at an interface between the oil phase and the aqueous phase.

[0008e]

In another aspect, there is provided a method for producing an external agent for skin or mucous membrane, the method comprising:

adding an oil phase, heated to a melting point of the oil phase or higher to melt, comprising petrolatum and a water-insoluble functional component dropwisely to an aqueous phase comprising dispersed particles of a polycondensation polymer having a hydroxyl group and/or dispersed vesicles formed of an amphiphilic substance,

and

mixing with stirring the aqueous phase.

[0008f]

In another aspect, there is provided a base for an external agent for skin or mucous membrane to produce the external agent for skin or mucous membrane by addition of a water-soluble functional component and/or a water-insoluble functional component, the base comprising:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase, and

particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance,

wherein a part of the particles and/or the vesicles are present at an interface between the oil phase and the aqueous phase.

[0009]

A first ~~aspect~~ example of the present ~~invention~~ disclosure relates to an external agent for skin or mucous membrane, including: an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid including petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and a water-insoluble

functional component phase, as an inner phase, including a water-insoluble functional component, and an aqueous phase as an outer phase, in which particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase, and at an interface between the water-insoluble functional component phase and the aqueous phase.

[0010]

A second ~~aspect~~ example of the present ~~invention~~ disclosure relates to an external agent for skin or mucous membrane, including: an oil phase, as an inner phase, that consists of petrolatum and a water-insoluble functional component or is a liquid or a semi-solid including petrolatum and a water-insoluble functional component with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase, in which particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase.

[0011]

A third ~~aspect~~ example of the present ~~invention~~ disclosure relates to the external agent for skin or mucous membrane according to the first or second ~~aspect~~ example of the present ~~invention~~disclosure, in which a content of the water-insoluble functional component with respect to a total amount of the external agent for skin or mucous membrane is 50% by mass or less.

[0012]

A fourth ~~aspect~~ example of the present ~~invention~~ disclosure relates to the external agent for skin or mucous membrane according to any one of the first to third ~~aspects~~ examples of the present ~~invention~~disclosure, in which the water-insoluble functional component is a functional component of cosmetics and/or a functional component of pharmaceuticals.

[0013]

A fifth ~~aspect~~ example of the present ~~invention~~ disclosure relates to an external agent for skin or mucous membrane, including: an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid including petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase, as an outer phase, including a water-soluble functional component, in which particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase.

[0014]

A sixth ~~aspect~~ example of the present ~~invention~~ disclosure relates to the external agent for skin or mucous membrane according to the fifth ~~aspect~~ example of the present ~~invention~~disclosure, in which a content of the water-soluble functional component with respect to a total amount of the external agent for skin or mucous membrane is 0.001% by mass or more and 50% by mass or less.

[0015]

A seventh ~~aspect~~ example of the present ~~invention~~ disclosure relates to the external agent for skin or mucous membrane according to the

fifth or sixth ~~aspect~~ example of the present ~~invention~~disclosure, in which the water-insoluble functional component is a functional component of cosmetics and/or a functional component of pharmaceuticals.

[0016]

An eighth ~~aspect~~ example of the present ~~invention~~ disclosure relates to the external agent for skin or mucous membrane according to any one of the first to seventh ~~aspects~~ examples of the present ~~invention~~disclosure, in which a content of the oil phase with respect to a total amount of the external agent for skin or mucous membrane is 70% by mass or less.

[0017]

A ninth ~~aspect~~ example of the present ~~invention~~ disclosure relates to the external agent for skin or mucous membrane according to any one of the first to eighth ~~aspects~~ examples of the present ~~invention~~disclosure, in which the content of the petrolatum with respect to a total amount of the external agent for skin or mucous membrane is 2% by mass or more and 70% by mass or less.

[0018]

A tenth ~~aspect~~ example of the present ~~invention~~ disclosure relates to a base for an external agent for skin or mucous membrane to produce the external agent for skin or mucous membrane by addition of a water-soluble functional component and/or a water-insoluble functional component, the base including: an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid including petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase, and particles of a polycondensation polymer having a hydroxyl

group and/or vesicles formed of an amphiphilic substance, in which a part of the particles and/or the vesicles are present at an interface between the oil phase and the aqueous phase.

[0019]

An eleventh ~~aspect~~ example of the present ~~invention~~ disclosure relates to the base for an external agent for skin or mucous membrane according to the tenth ~~aspect~~ example of the present ~~invention~~disclosure, in which the external agent for skin or mucous membrane is an ointment.

[0020]

A twelfth ~~aspect~~ example of the present ~~invention~~ disclosure relates to a method for producing an external agent for skin or mucous membrane, the method including: adding a water-soluble functional component and/or a water-insoluble functional component to a base for an external agent for skin or mucous membrane, and mixing the water-soluble functional component and/or the water-insoluble functional component with the base, in which the base includes: an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid including petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase, and particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance, in which a part of the particles and/or the vesicles are present at an interface between the oil phase and the aqueous phase, and at an interface between the functional component phase and the aqueous phase.

Effects of the ~~Invention~~Disclosure

[0021]

According to the present ~~invention~~disclosure, an external agent for skin or mucous membrane excellent in feeling during use despite containing petrolatum as a base can be produced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022]

FIG. 1 shows a microscopy image of base 1.

FIG. 2 shows a microscopy image of base 2.

FIG. 3 shows a microscopy image of the sample obtained in Example 1.

FIG. 4 shows a microscopy image of allantoin powder.

FIG. 5 shows a microscopy image of the sample obtained in Example 2.

FIG. 6 shows a microscopy image of cerebroside powder.

FIG. 7 shows a microscopy image of the sample obtained in Example 3.

FIG. 8 shows a microscopy image of an aqueous dispersion of 32% by mass titanium oxide.

FIG. 9 shows a microscopy image of the sample obtained in Example 4.

FIG. 10 shows a microscopy image of a silicone oil dispersion of 29% by mass titanium oxide.

PREFERRED MODE FOR CARRYING OUT THE INVENTION

[0023]

CLAIMS

1. An external agent for skin or mucous membrane, comprising:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and a water-insoluble functional component phase, as an inner phase, comprising a water-insoluble functional component, and an aqueous phase as an outer phase,

wherein particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase, and at an interface between the water-insoluble functional component phase and the aqueous phase.

2. An external agent for skin or mucous membrane, comprising:

an oil phase, as an inner phase, that consists of petrolatum and a water-insoluble functional component or is a liquid or a semi-solid comprising petrolatum and a water-insoluble functional component with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase,

wherein particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase.

3. The external agent for skin or mucous membrane according to claim 1 or 2, wherein a content of the water-insoluble functional component with respect to a total amount of the external agent for skin is 50% by mass or less.

4. The external agent for skin or mucous membrane according to any one of claims 1 to 3, wherein the water-insoluble functional component is a functional component of cosmetics and/or a functional component of pharmaceuticals.

5. An external agent for skin or mucous membrane, comprising:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase, as an outer phase, comprising a water-soluble functional component,

wherein particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance are present at an interface between the oil phase and the aqueous phase.

6. The external agent for skin or mucous membrane according to claim 5, wherein a content of the water-soluble functional component with respect to a total amount of the external agent for skin is 0.001% by mass or more and 50% by mass or less.

7. The external agent for skin or mucous membrane according to claim 5 or 6, wherein the water-soluble functional component is a functional component of cosmetics and/or a functional component of pharmaceuticals.

8. The external agent for skin or mucous membrane according to any one of claims 1 to 7, wherein a content of the oil phase with respect to a total amount of the external agent for skin is 70% by mass or less.

9. The external agent for skin or mucous membrane according to any one of claims 1 to 8, wherein a content of the petrolatum with respect to a total amount of the external agent for skin or mucous membrane is 2% by mass or more and 70% by mass or less.

10. A method for producing an external agent for skin or mucous membrane, the method comprising:

adding a water-soluble functional component and/or a water-insoluble functional component to a base for an external agent for skin or mucous membrane, and mixing the water-soluble functional component and/or the water-insoluble functional component with the base,

wherein the base comprises:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising

petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase, and particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance,

wherein a part of the particles and/or the vesicles are present at an interface between the oil phase and the aqueous phase.

11. A method for producing an external agent for skin or mucous membrane, the method comprising:

adding an oil phase, heated to a melting point of the oil phase or higher to melt, comprising petrolatum and a water-insoluble functional component dropwisely to an aqueous phase comprising dispersed particles of a polycondensation polymer having a hydroxyl group and/or dispersed vesicles formed of an amphiphilic substance, ~~the oil phase being heated to a melting point of the oil phase or higher to melt,~~ and

mixing with stirring the aqueous phase.

12. A base for an external agent for skin or mucous membrane to produce the external agent for skin or mucous membrane by addition of a water-soluble functional component and/or a water-insoluble functional component, the base comprising:

an oil phase, as an inner phase, that consists of petrolatum or is a liquid or a semi-solid comprising petrolatum with a viscosity of 5000 mPa•s or more at 25°C, and an aqueous phase as an outer phase, and

particles of a polycondensation polymer having a hydroxyl group and/or vesicles formed of an amphiphilic substance,

wherein a part of the particles and/or the vesicles are present at an interface between the oil phase and the aqueous phase.

13. The base for an external agent for skin or mucous membrane according to claim ~~10~~12, wherein the external agent for skin or mucous membrane is an ointment.

14. The external agent for skin or mucous membrane according to claim 2, wherein the external agent for skin or mucous membrane is an ointment.