In particular, the inventors of the present invention found out that eprotirome clearly prolongs anagen as seen in hair staging histomorphometry following *in vitro* testing in a human hair follicle organ culture and confirmed by an increased proliferation of hair matrix keratinocytes and a significant reduced expression of TGFβ2. Furthermore, upregulation of tyrosinase activity and increased melanin content in treated hair follicles reflect pigmentation-stimulatory effects.

Summary of the ~~Invention~~Disclosure

Therefore, the ~~subject-matter of the~~ present ~~invention~~ disclosure ~~is~~ refers to eprotirome for use in the prevention and/or treatment of hair disorders in a mammal.

In one aspect, there is provided the use of eprotirome in the manufacture of a medicament for the prevention and/or treatment of hair disorders in a mammal, wherein the hair disorder is hair loss, and wherein the hair loss is selected from the group consisting of alopecia areata, androgenetic alopecia and chemotherapy-induced hair loss.

Further, the ~~subject-matter of the~~ present ~~invention~~ disclosure ~~is~~ also refers to a pharmaceutical composition comprising:

(a) eprotirome as active ingredient for the prevention and/or treatment of hair disorders, and

(b) a pharmaceutically acceptable excipient, for use in the prevention and/or treatment of hair disorders in a mammal.

In one aspect, there is provided the use of a pharmaceutical composition in the manufacture of a medicament for the prevention and/or treatment of hair disorders comprising:

(a) eprotirome as active ingredient, and

(b) a pharmaceutically acceptable excipient;

wherein the hair disorder is hair loss, and wherein the hair loss is selected from the group consisting of alopecia areata, androgenetic alopecia and chemotherapy-induced hair loss.

Consequently, the present ~~invention~~ disclosure relates to eprotirome and to a pharmaceutical composition comprising eprotirome as active ingredient and pharmaceutically acceptable excipients for use in the prevention and/or treatment of hair disorders, in particular for preventing and/or treating hair graying and/or hair loss, including arresting and/or reversing hair loss and promoting hair growth.

Claims

1. Use of eprotirome in the manufacture of a medicament for the prevention and/or treatment of hair disorders in a mammal.

2. The use according to claim 1 wherein the hair disorder is hair loss.

3. The use according to any one of claims 1 and 2 wherein the hair loss is selected from alopecia areata, androgenetic alopecia including male pattern and female pattern baldness and chemotherapy-induced hair loss.

4. The use according to any one of claims 1 to 3 wherein the mammal is a human being.

5. The use according to any one of claims 1 to 3 wherein eprotirome is applied topically on the skin of a mammal.

6. Use of a pharmaceutical composition in the manufacture of a medicament for the prevention and/or treatment of hair
disorders comprising:
(a) eprotirome as active ingredient, and
(b) a pharmaceutically acceptable excipient.

7. The use according to claim 6 wherein the hair disorder is hair loss, preferably selected from alopecia areata, androgenetic alopecia including male pattern and female pattern baldness and chemotherapy-induced hair loss.

8. The use according to claim 6 or 7, further comprising (c) a penetration enhancer, preferably selected from the group of isopropyl myristate, propylene glycol and dimethyl isosorbide.

9. The use according to any one of claims 6 to 8, which comprises 0.0001 to about 10 wt. % of eprotirome, based on the total weight of the phannaceutical composition.

10. The use according to any one of claims 6 to 9, wherein the pharmaceutically acceptable excipient is selected from the group consisting of solvents, gelling agents, buffers, surfactants, detergents, oils, alcohols, emulsifiers, solubilizers, humectants, fillers and bioadhesives.

11. The use according to any one of claims 6 to 10, further comprising an additional therapeutically active substance.

12. The use according to claim 11, wherein the additional therapeutically active substance is selected from caffeine, finasteride, minoxidil, cyproterone acetate.

13. The use according to any one of claims 6 to 12, further comprising an anti-graying enhancer.

14. The use according to claim 13, wherein the anti-graying enhancer is an extract of Echinacea.

15. Non-therapeutic use of eprotirome in the treatment and/or prevention of hair loss in mammals and/or in the prevention of hair conditions, preferably in the prevention and/or reversal of hair graying.

Claims

1. Use of eprotirome in the manufacture of a medicament for the prevention and/or treatment of hair disorders in a mammal, wherein the hair disorder is hair loss, and wherein the hair loss is selected from the group consisting of alopecia areata, androgenetic alopecia and chemotherapy-induced hair loss.

2. The use according to claim 1, wherein the hair loss is androgenetic alopecia.

3. The use according to any one of claims 1 to 2 wherein the mammal is a human being.

4. The use according to any one of claims 1 to 2 wherein eprotirome is applied topically on the skin of a mammal.

5. Use of a pharmaceutical composition in the manufacture of a medicament for the prevention and/or treatment of hair disorders comprising:
(a) eprotirome as active ingredient, and
(b) a pharmaceutically acceptable excipient;
wherein the hair disorder is hair loss, and wherein the hair loss is selected from the group consisting of alopecia areata, androgenetic alopecia and chemotherapy-induced hair loss.

6. The use according to claim 5 wherein the hair loss is androgenetic alopecia.

7. The use according to claim 5 or 6, further comprising (c) a penetration enhancer, preferably selected from the group of isopropyl myristate, propylene glycol and dimethyl isosorbide.

8. The use according to any one of claims 5 to 7, which comprises 0.0001 to about 10 wt. % of eprotirome, based on the total weight of the pharmaceutical composition.

9. The use according to any one of claims 5 to 8, wherein the pharmaceutically acceptable excipient is selected from the group consisting of solvents, gelling agents,

buffers, surfactants, detergents, oils, alcohols, emulsifiers, solubilizers, humectants, fillers and bioadhesives.

10. The use according to any one of claims 5 to 9, further comprising an additional therapeutically active substance.

11. The use according to claim 10, wherein the additional therapeutically active substance is selected from caffeine, finasteride, minoxidil, cyproterone acetate.

12. The use according to any one of claims 5 to 11, further comprising an anti-graying enhancer.

13. The use according to claim 12, wherein the anti-graying enhancer is an extract of Echinacea.

14. Non-therapeutic use of eprotirome in the treatment and/or prevention of hair loss in mammals and/or in the prevention of hair conditions, preferably in the prevention and/or reversal of hair graying.

15. The use according to claim 1 or 5, wherein the hair loss is alopecia areata.

16. The use according to claim 1 or 5, wherein the hair loss is chemotherapy-induced hair loss.

17. The use according to claim 2 or 6, wherein the androgenetic alopecia includes male pattern and female pattern baldness.