together with a TJ-modulating peptide in a dermatologically acceptable carrier to the skin of the subject so as to lessen and improve the appearance of fine lines and wrinkles.

[0019] The present invention also provides a method for treating a skin disorder in a subject in need thereof comprising applying to the skin of the subject a therapeutically effective amount of a therapeutic composition comprising an amphipol polymer ionically paired with at least one charged bioactive agent in a dermatologically acceptable carrier, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery, so as to treat the skin disorder of the subject.

[0019a] In another aspect, the present invention also provides a use of a therapeutically effective amount of a therapeutic composition comprising an amphipol polymer ionically paired with at least one charged bioactive agent in a dermatologically acceptable carrier, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery, in the manufacture of a medicament for treating a skin disorder in a subject in need thereof, wherein the medicament is to be applied to the skin of the subject.

[0020] Also provided is a method of enhancing penetration of the skin by a charged cosmetic, pharmaceutical and/or nutraceutical agent comprising applying to the skin of a subject in need thereof a composition comprising an amphipol polymer ionically paired with at least one charged bioactive agent in a dermatologically acceptable vehicle, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery, wherein the penetration of the charged bioactive agent is increased with respect to the penetration of the same agent in soluble form.

[0021] In another aspect, topical formulations and methods are provided for the dermal and transdermal delivery of chemodenervation agents *(e.g.* neurotoxin proteins, peptides or peptide mimetics), comprising an amphipol polymer ionically paired with at least one chemodenervation agent in a dermatologically acceptable carrier, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery.

[0022] In another aspect, topical formulations and methods are provided for the dermal and transdermal delivery of growth factors and other hormones *(e.g.* human growth hormone, gonadotrophin, etc.), comprising an amphipol polymer ionically paired with the hormone in a dermatologically acceptable carrier, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery.

[0023] In another aspect, topical formulations and methods are provided for the dermal and transdermal delivery of anti-fungal agents *(e.g.* terbinafine, itraconazole, micronazole nitrate, thiapendazole, tolnaftate, clotrimazole and griseofulvin), comprising an amphipol polymer ionically paired with the anti-fungal agent in a dermatologically acceptable carrier, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery.

CLAIMS

1. A topical formulation for dermal delivery comprising an amphipol polymer ionically paired with at least one charged bioactive agent in a dermatologically acceptable vehicle.

2. The topical formulation according to claim 1, wherein said charged bioactive agent is selected from the group consisting of hyaluronic acid, heparin, laminin, hyaluronidase inhibitors, RHAMM inhibitors, hyaluronan synthases, prostaglandin analogues, matrix metalloproteinase inhibitors, TNF-α antagonists, TGF-β, superoxide dismutase, growth factors, cytokines and matrikines.

3. The topical formulation according to claim 1, further comprising water, a moisturizing agent or a humectant, a surfactant, a silicone-containing compound, a UV agent, a chelating agent, an essential oil, a skin lightener, a preservative, a thickening agent, a structuring agent, vitamin, a cosmetic ingredient, a pharmaceutical ingredient, or an antioxidant.

4. The topical formulation according to claim 1, wherein said amphipol polymer is selected from the group consisting of Amphipol A8-35, PMAL-C8, PMAL-C12 and PMAL-C16.

5. A method for improving skin appearance in a subject in need thereof comprising applying to the skin of a subject a topical formulation according to any one of claims 1-4.

6. The method according to claim 5, wherein the charged bioactive agent is hyaluronan or a fragment or analogue thereof, optionally further comprising an antioxidant, a growth factor, a cytokine and/or a matrikine.

7. A topical formulation for transdermal delivery comprising an amphipol polymer ionically paired with at least one charged bioactive agent, together with at least one TJ-modulating peptide in a dermatologically acceptable vehicle.

8. The topical formulation according to claim 6, wherein said charged bioactive agent is selected from the group consisting of corticosteroids, hormones, chemodenervation agents, vaccines, cytokines, TNF-α antagonists, TGF-β, antibodies, anti-fungals, anesthetics, insulin, opioids, and therapeutic nucleic acids.

9. The topical formulation according to claim 8, wherein said TJ-modulating peptide is selected from the group consisting of NH2-ACSSSPSKHCG-COOH, synthetic biomimetic peptide analogues of occludin's first and second extracellular loops such as NH2-SNYYGSGLS-COOH, NH2-DRGYGTSLLGGSVG-COOH, and synthetic biomimetic peptide analogues of claudin-actin peptides.

10. A method of transdermally delivering a charged cosmetic, pharmaceutical and/or nutraceutical agent comprising applying to the skin of a subject in need thereof a topical formulation according to any one of claims 7-9.

11. A method of improving the appearance of fine lines and wrinkles in a subject in need thereof, comprising topically applying an effective amount of an anti-wrinkle composition comprising an amphipol polymer ionically paired with a chemodenervation agent, together with a TJ-modulating peptide in a dermatologically acceptable carrier to the skin of the subject so as to lessen and improve the appearance of fine lines and wrinkles.

12. Use of a therapeutically effective amount of a therapeutic composition comprising an amphipol polymer ionically paired with at least one charged bioactive agent in a dermatologically acceptable carrier, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery, in the manufacture of a medicament for treating a skin disorder in a subject in need thereof, wherein the medicament is to be applied to the skin of the subject.

13. A method of enhancing penetration of the skin by a charged cosmetic, pharmaceutical and/or nutraceutical agent comprising applying to the skin of a subject in need thereof a composition comprising an amphipol polymer ionically paired with at least one charged bioactive agent in a dermatologically acceptable vehicle, and optionally further comprising at least one TJ-modulating peptide for transdermal delivery, wherein the penetration of the charged bioactive agent is increased with respect to the penetration of the same agent in soluble form.