Claims

1. Method for the production of a biopolymer, wherein the biopolymer has a defined average molecular weight, the method comprising

    - lyophilizing a composition comprising the biopolymer,
    - optionally purifying and/or isolating the biopolymer;

    wherein the maximum temperature during the lyophilization process is selected to facilitate a controlled and defined degradation of said biopolymer.

    wherein the temperature during the sublimation process is selected from a range between 0 °C and 140 °C, and

    wherein the composition comprising the biopolymer has a pH value selected from a range between 1.5 and 8.5, preferably between 2.5 and 6, and

    wherein the base composition is an emulsion comprising:

    (i) the biopolymer,

    (ii) water,

    (iii) optionally a pharmaceutically, dermatologically or cosmetically acceptable oil,

    (iv) an emulsifying agent and

    (v) optionally emollients.

2. The method according to claim 1, wherein the composition comprising the biopolymer is an aqueous solution or an emulsion.

3. The method according to any of the preceding claims, wherein the pressure during the sublimation process is selected from a range between 50 µbar and 800 µbar.

4. The method according to any of the preceding claims, wherein the biopolymer is selected from the group comprising hyaluronic acid, collagen, glucosamino glycans, polysaccharides and fucoidanes, preferably the biopolymer is hyaluronic acid.

5. A method for the production of compositions, comprising a biopolymer, wherein the biopolymer has a defined average molecular weight, the method comprising:

    (i) providing a base composition comprising a biopolymer with native high molecular weight,

    (ii) lyophilizing said base composition;

    wherein the maximum temperature during the lyophilization process is selected to facilitate a controlled and defined degradation of the biopolymer,

wherein the temperature during the sublimation process is selected from a range between 0 °C and 140 °C.

6. The method according to claim 5, wherein the base composition is an emulsion or an aqueous solution.

7. The method according to claim 1, wherein the base composition additionally comprises further dermatological, pharmaceutical or cosmetic additions.

8. The method according to any of the claims 5 to 7, wherein the base composition comprises additional components, such as stabilizers and preserving agents.

9. The method according to any of the claims 5 to 8, wherein the base composition is prepared in an appropriate container, which is suitable for the lyophilization process and which can serve as primary packaging.

10. The method according to any of claims 5 to 9, wherein the biopolymer is selected from the group comprising hyaluronic acid, collagen, glucosamino glycans, polysaccharides and fucoidanes, preferably the biopolymer is hyaluronic acid.

11. Use of a method according to any of the claims 1 to 4 for the production of a pharmaceutically, dermatologically or cosmetically acceptable biopolymer.

12. Use of a method according to claims 5 to 10 for the production of pharmaceutically, dermatologically or cosmetically acceptable compositions comprising a biopolymer.

13. A composition produced according to any of the claims 5 to 10.

14. A composition according to claim 13 for use as a pharmaceutical, dermatological or cosmetic product.

15. Use of a biopolymer produced by a method according to claims 1 to 4 or a composition according to claim 13 for the production of a pharmaceutical, dermatological or cosmetic product.