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Claims

1. Use of a pharmaceutical preparation in the manufacture of a medicament (1) in the treatment of skin ageing or (2) as an anti-ageing agent, wherein the ageing is directed to the skin, wherein said pharmaceutical preparation is injected into the skin and wherein said pharmaceutical preparation is prepared by a production method comprising the steps of providing a liquid comprising cellular constituents of blood collected from a human organism, wherein said liquid is a blood sample, and providing a vessel or containment means, said vessel or containment means having an internal surface, and contacting said liquid with said vessel or containment means, wherein
    (a) said production method further comprises the step of incubating said liquid in said vessel or containment means for an incubation time, and optionally removing cellular constituents of said liquid after said incubation, or
    (b) said liquid comprises exosomes, and said production method further comprises the steps of concentrating said exosomes and optionally removing cellular constituents of said liquid after said concentration, or the step of isolating said exosomes.

2. The use according to alternative (a) of claim 1, wherein the relationship between said incubation time and said internal surface is in accordance with the following equation: $t = f * A$, wherein t designates the incubation time, A designates the internal surface and f is smaller than or equal to 0.5 h/cm^2.

3. The use according to alternative (b) of claim 1, wherein said production method, before the step of concentrating or isolating said exosomes, further comprises the step of incubating said liquid in said vessel or containment means for an incubation time, or the step of avoiding incubation of said liquid.

4. The use according to any one of claims 1 to 3, wherein the liquid is (1) a whole blood sample or (2) a whole blood sample from which cells have been depleted.

5. The use according to claim 4, wherein said cells that have been depleted are erythrocytes.

6. The use according to any one of claims 1 to 5, wherein the step of removing cellular constituents is a step of removing the erythrocytes, the platelets or the entirety of cellular constituents.

7. The use according to any one of claims 1 to 6, wherein
    (a) said production method further comprises the step of reducing the volume of said liquid and/or
    (b) the pharmaceutical preparation is in dry form.

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8. The use according to any one of claims 1 to 7, wherein said injection is carried out at a depth of less than 3 mm.

9. The use according any one of claims 1 to 8, wherein said injection into the skin is an injection into the dermis or subcutis.

10. The use according to any one of claims 1 to 9, wherein said injection into the skin is an injection into the dermis.

11. The use according to any one of claims 1 to 10, wherein the use involves one or more subsequent injections, and a time interval between consecutive injections is 1 day to 52 weeks.

12. The use according to any one of claims 1 to 11, wherein the skin ageing is associated with a disorder having an effect on mechanical parameters of the skin or a disorder caused by collagen damage and/or elastin damage.

13. The use according to claim 12, wherein said disorder caused by collagen damage and/or elastin damage is selected from loose skin, dryness and wrinkling.

14. The use according to any one of claims 1 to 13, wherein said treatment is by improving skin elasticity.

15. The use according to any one of claims 1 to 14, wherein said treatment is by preventing or reducing oxidative and/or DNA damage and/or by stimulating DNA repair.

16. The use according to any one of claims 1 to 15, wherein said human being is at least 30 years old.

17. The use according to any one of claims 1 to 16, wherein
    (a) the level of IL-6 is 2000 pg/ml or less,
    (b) the ratio of the levels of IL-1Ra and IL-6, each measured in pg/ml, is 3 or more,
    (c) the level of IL-1Ra is 200 pg/ml or more,
    (d) the ratio of the levels of IL-1Ra and IL-1, each measured in pg/ml, is 10 or more,
    (e) the pharmaceutical preparation is free from added hyaluronic acid.

18. The use according to any one of claims 1 to 17, wherein said pharmaceutical preparation comprises exosomes.

19. The use according to claim 18, wherein exosomes have been generated during said incubation.

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20. The use according to claim 18 or 19, wherein said production method further comprises the step of concentrating or isolating said exosomes after said incubation, and optionally taking up the concentrated or isolated exosomes in a fluid.

21. The use according to any one of claims 1 to 20, wherein the pharmaceutical preparation comprises serum or plasma.

22. The use according to any one of claims 1 to 21, wherein said incubation is carried out
    (a) for an incubation time of 5 min to 22 hours,
    (b) at a temperature from 0°C to 45°C, and/or
    (c) in the absence of an added anticoagulant.

23. The use according to any one of claims 1 to 22, wherein said vessel or containment means
    (a) has/have a volume of 1 ml to 1000 ml,
    (b) include(s) a surface for contacting the liquid that comprises glass, plastic, corundum or quartz or a combination thereof and/or
    (c) contain(s) particles selected from the group consisting of macroscopic particles, microscopic particles and nanoparticles, and wherein during said incubation the liquid is in contact with said particles.

24. The use according to any one of claims 1 to 23, wherein said treatment is
    (a) by injection to the same organism from whom said liquid has been collected and/or
    (b) in a combination therapy with one or more other effective agents.