Claims

1. Use of a composition comprising integrin alpha10-selected Mesenchymal Stem Cells (MSCs) for the manufacture of a medicament for the treatment and/or regeneration of a skin defect in a mammal, wherein at least 60% of the MSCs express integrin alpha10 subunit.

2. Use of a composition comprising integrin alpha10-selected Mesenchymal Stem Cells (MSCs) for the manufacture of a medicament for the prevention of fibrosis of the skin, regeneration of skin at the site of a skin defect and/or for reducing scar formation resulting from healing of a skin defect in a mammal.

3. The use according to any one of the preceding claims, wherein the skin defect is a hard-to-heal wound, such as a chronic wound.

4. The use according to any one of the preceding claims, wherein the hard-to-heal wound is associated with venous insufficiency, arterial insufficiency and diabetic complications, a rare disease such as sickle cell anaemia or is a pressure-related hard-to-heal wound.

5. The use according to any one of the preceding claims, wherein the hard-to-heal wound is a dermal ulcer, a wound, or a skin defect due to vascular insufficiency or diabetic affection of the blood vessels.

6. The use according to any one of the preceding claims, wherein the skin defect is a skin disorder provoked by external factors, such as pressure ulceration, dermatoses provoked by friction or mechanical stress, dermatoses due to foreign bodies, dermatoses provoked or exacerbated by exposure to cold, dermatoses provoked by heat or electricity, dermatoses provoked by light or UV radiation, dermatoses due to ionizing radiation, allergic contact dermatitis, photo-allergic contact dermatitis, irritant contact dermatitis, allergic contact urticarial, protein contact dermatitis, allergic contact sensitisation, phototoxic reactions to skin contact with photoactive agents, cutaneous reactions to venomous or noxious animals, a burn, a pressure sore from extended bed rest, a skin defect induced by trauma, or a cut.

7. The use according to any one of the preceding claims, wherein the skin defect is an inflammatory dermatosis, such as dermatitis, eczema, atopic dermatitis, papulosquamous dermatoses, urticaria, angioedema or other urticarial disorders, inflammatory erythemas and other reactive inflammatory dermatoses, immunobullous diseases of the skin, cutaneous lupus erythematosus, scarring or sclerosing inflammatory dermatoses.

8. The use according to any one of the preceding claims, wherein the skin defect is a postprocedural disorder of the skin, such as an unsatisfactory surgical scar of skin, a cutaneous flap necrosis, a myocutaneous flap necrosis, a skin graft failure, a composite graft failure or a surgical incision.

9. The use according to any one of the preceding claims, wherein the skin defect is a genetic and/or developmental disorders affecting the skin, such as epidermolysis bullosa, or genodermatosis.

10. The use according to any one of the preceding claims, wherein the composition is adapted for local administration.

11. The use according to any one of the preceding claims, wherein the composition is topically administered to the skin defect, administered via injection, or any combination thereof.

12. The use according to any one of the preceding claims, wherein the composition is dosed to comprise between 20.000 and 150.000 MSCs/cm^2 of skin defect to be treated.

13. The use according to any one of the preceding claims, wherein the composition is administered in a form of a cell suspension in a pharmaceutically acceptable liquid medium such as a liquid medium comprising human serum albumin.

14. The use according to any one of the preceding claims, wherein the composition is administered on a dressing or reservoir.

15. The use according to any one of the preceding claims, wherein at least 60% of the MSCs express integrin alpha10 subunit.

16. The use according to any one of the preceding claims, wherein the MSCs are derived from adipose tissue, bone marrow, synovial membrane, peripheral blood, cord blood, umbilical cord blood, Wharton's jelly, and/or amniotic fluid, , selected for expression of integrin alpha10beta1, and expanded in culture.

17. The use according to any one of the preceding claims, wherein the MSCs are MHCII negative, CD45 negative, CD34 negative, CD11b negative, CD19 negative and/or CD79 alpha negative, and/or wherein the MSCs express CD73, CD90 and/or CD105.

18. The use according to any one of the preceding claims, wherein the composition secretes anti-inflammatory factors, growth factors and/or immunomodulatory factors at higher concentration compared to a composition wherein less than 50% of the MSC express integrin alpha10 subunit.

19. The use according to any one of the preceding claims, wherein the growth factors, anti-inflammatory factors and/or immunomodulatory factors are indoleamine 2,3-dioxygenase (IDO), prostaglandin E2 (PGE2), vascular endothelial growth factor (VEGF) and/or hepatocyte growth factor (HGF).

20. The use according to any one of the preceding claims, wherein the MSCs are selected from the group consisting of a mesenchymal stem cells, mesenchymal progenitor cells, and mesenchymal stromal cells; or a mixture thereof.

21. The use according to any one of the preceding claims, wherein the MSCs are induced to express integrin α10 subunit.

22. The use according to any one of the preceding claims, wherein the MSCs are an *in vitro* cell suspension.

23. The use according to any one of the preceding claims, wherein the selection of the MSCs has been conducted with an anti-integrin α10 antibody.

24. The use according to any one of the preceding claims, wherein the MSCs are allogeneic or autologous.