SUMMARY

In one aspect, the present disclosure refers to a use of a D-deoxyribose sugar in the manufacture of a medicament for promoting wound healing wherein the sugar is provided in a carrier and wherein the carrier is a biocompatible matrix material or a hydrogel.

In one example the disclosure provides a D-deoxyribose sugar for use in promoting wound healing wherein the sugar is provided in a carrier and wherein the carrier is a biocompatible matrix material or a hydrogel. Preferably, the D-deoxyribose is 2-deoxyribose.

In one example, the carrier is a biodegradable carrier.

In one example, the matrix material is an electrospun scaffold. Preferably, the electrospun scaffold comprises at least one of polylactic acid (PLA), polyglycolide (PGA), poly(lactic-co-glycolic acid) (PLGA) or poly(3-hydroxybutyrate-co-3-hydroxyvalerate) PHBV.

In one example, the hydrogel is a crosslinked hydrogel. Preferably the hydrogel comprises at least one of chitosan, gelatin, alginate, agarose, methylcellulose, hyaluronan or any combination thereof. In one example, the hydrogel comprises chitosan and collagen. Additionally, the hydrogel may comprise polyvinyl alcohol, sodium polyacrylate, acrylate polymers or any combination thereof. In one example, the hydrogel comprises chitosan and polyvinyl alcohol.

In one example, the carrier further comprises an antimicrobial agent.

In one example, the wound is a chronic wound.

In one example, the wound is a full thickness wound.

In one example, the wound is a burn injury.

In one aspect, the disclosure refers to a biocompatible matrix material comprising a D-deoxyribose sugar.

In one example, the matrix material is an electrospun scaffold. Preferably, the electrospun scaffold comprises at least one of polylactic acid (PLA), polyglycolide (PGA), poly(lactic-co-glycolic acid) (PLGA) or poly(3-hydroxybutyrate-co-3-hydroxyvalerate) PHBV.

In one aspect the disclosure refers to a hydrogel comprising a D-deoxyribose sugar.

In one example, the hydrogel is a crosslinked hydrogel. Preferably the hydrogel comprises at least one of chitosan, gelatin, alginate, agarose, methylcellulose, hyaluronan or any combination thereof. In one example, the hydrogel comprises chitosan and collagen. Additionally, the hydrogel may comprise polyvinyl alcohol, sodium polyacrylate, acrylate polymers or any combination thereof. In one example, the hydrogel comprises chitosan and polyvinyl alcohol.

In another aspect, the present disclosure refers to a use of the biocompatible material as disclosed herein in the manufacture of a medicament for promoting wound healing or for the treatment of alopecia.

In one example, the disclosure provides the biocompatible material of any one the aforementioned examples for use in promoting wound healing or for use in the treatment of alopecia.

In another aspect, the present disclosure refers to a use of the hydrogel as disclosed herein in the manufacture of a medicament for promoting wound healing or for the treatment of alopecia.

In one example, the disclosure provides the hydrogel of any one of the aforementioned examples for use in promoting wound healing or for use in the treatment of alopecia.

In another aspect, the present disclosure refers to a use of the biocompatible material as disclosed herein in the manufacture of a medicament for increasing or inducing vascularization in a wound bed.

In one example, the disclosure provides the biocompatible material of any one the aforementioned examples for use in a method of increasing or inducing vascularization in a wound bed.

In another aspect, the present disclosure refers to a use of the hydrogel as disclosed herein in the manufacture of a medicament for increasing or inducing angiogenesis in a wound bed.

In one example, the disclosure provides the hydrogel of any one of any one the aforementioned examples for use in a method of increasing or inducing angiogenesis in a wound bed.

In one example the disclosure provides a D-deoxyribose sugar for use in the treatment of alopecia wherein the sugar is provided in a carrier and wherein the carrier is a biocompatible matrix material or a hydrogel. Preferably, the D-deoxyribose is 2-deoxyribose.

In one example, the carrier is a biodegradable carrier.

In one example, the matrix material is an electrospun scaffold. Preferably, the electrospun scaffold comprises at least one of polylactic acid (PLA), polyglycolide (PGA), poly(lactic-co-glycolic acid) (PLGA) or poly(3-hydroxybutyrate-co-3-hydroxyvalerate) PHBV.

In one example, the hydrogel is a crosslinked hydrogel. Preferably the hydrogel comprises at least one of chitosan, gelatin, alginate, agarose, methylcellulose, hyaluronan or any combination thereof. In one example, the hydrogel comprises chitosan and

collagen. Additionally, the hydrogel may comprise polyvinyl alcohol, sodium polyacrylate, acrylate polymers or any combination thereof. In one example, the hydrogel comprises chitosan and polyvinyl alcohol.

In one example, the carrier further comprises an antimicrobial agent.

In one example, the disclosure provides a non-therapeutic method for promoting hair regrowth, said method comprising administration of a D-deoxyribose sugar, wherein the sugar is provided in a carrier and wherein the carrier is a biocompatible matrix material or a hydrogel Preferably, the D-deoxyribose is 2-deoxyribose.

In one example, the carrier is a biodegradable carrier.

In one example, the matrix material is an electrospun scaffold. Preferably, the electrospun scaffold comprises at least one of polylactic acid (PLA), polyglycolide (PGA), poly(lactic-co-glycolic acid) (PLGA) or poly(3-hydroxybutyrate-co-3-hydroxyvalerate) PHBV.

In one example, the hydrogel is a crosslinked hydrogel. Preferably the hydrogel comprises at least one of chitosan, gelatin, alginate, agarose, methylcellulose, hyaluronan or any combination thereof. In one example, the hydrogel comprises chitosan and collagen. Additionally, the hydrogel may comprise polyvinyl alcohol, sodium polyacrylate, acrylate polymers or any combination thereof. In one example, the hydrogel comprises chitosan and polyvinyl alcohol.

In one example, the carrier further comprises an antimicrobial agent.

In one aspect, the disclosure provides a wound dressing comprising the biocompatible matrix material according to any one of the aforementioned aspects or examples.

In one aspect, the disclosure provides a wound dressing comprising the hydrogel according to any one of the aforementioned aspects or examples.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention are further described hereinafter with reference to the accompanying drawings, in which:

Claims:

1. Use of a D-deoxyribose sugar in the manufacture of a medicament for promoting wound healing wherein the sugar is provided in a carrier and wherein the carrier is a biocompatible matrix material or a hydrogel.

2. The use according to claim 1, wherein the D-deoxyribose is 2-deoxyribose.

3. The use according to claim 1 or 2, wherein the carrier is a biodegradable carrier.

4. The use according to any one of claims 1 to 3, wherein the matrix material is an electrospun scaffold.

5. The use according to claim 4, wherein the electrospun scaffold comprises at least one of polylactic acid (PLA), polyglycolide (PGA), poly(lactic-co-glycolic acid) (PLGA) or poly(3-hydroxybutyrate-co-3-hydroxyvalerate) PHBV.

6. The use according to claim 1 or 2, wherein the hydrogel is a crosslinked hydrogel.

7. The use according to claim 1 or claim 6, wherein the hydrogel comprises at least one of chitosan, gelatin, alginate, agarose, methylcellulose, hyaluronan or any combination thereof.

8. The use according to claim 7, wherein the hydrogel comprises chitosan and collagen.

9. The use according to claim 7 or 8, wherein the hydrogel comprises polyvinyl alcohol, sodium polyacrylate, acrylate polymers or any combination thereof.

10. The use according to any one of claims 6 to 9, wherein the hydrogel comprises chitosan and polyvinyl alcohol.

11. The use according to any one of the preceding claims, wherein the carrier further comprises an antimicrobial agent.

12. The use according to any preceding claim, wherein the wound is a chronic wound.

13. The use according to any preceding claim, wherein the wound is a full thickness wound.

14. The use according to any preceding claim, wherein the wound is a burn injury.

15. A biocompatible matrix material comprising a D-deoxyribose sugar.

16. The biocompatible matrix material according to claim 15, wherein the matrix material is an electrospun scaffold.

17. The biocompatible matrix material according to claim 17, wherein the electrospun scaffold comprises at least one of polylactic acid (PLA), polyglycolide (PGA), poly(lactic-co-glycolic acid) (PLGA) or poly(3-hydroxybutyrate-co-3-hydroxyvalerate) PHBV.

18. A hydrogel comprising a D-deoxyribose sugar.

19. The hydrogel according to claim 18, wherein the hydrogel comprises at least one of chitosan, gelatin, alginate, agarose, methylcellulose, hyaluronan or any combination thereof.

20. The hydrogel according to claim 18 or 19, wherein the hydrogel comprises chitosan and collagen.

21. The hydrogel according to any one of claims 18 to 20, wherein the hydrogel comprises polyvinyl alcohol, sodium polyacrylate, acrylate polymers or any combination thereof.

22. The hydrogel according to any one of claims 18 to 21, wherein the hydrogel comprises chitosan and polyvinyl alcohol.

23. Use of the biocompatible material of any one of claims 15 to 17 in the manufacture of a medicament for promoting wound healing or for the treatment of alopecia.

24. Use of the hydrogel of any one of claims 18 to 22 in the manufacture of a medicament for promoting wound healing or for the treatment of alopecia.

25. Use of the biocompatible material of any one of claims 15 to 17 in the manufacture of a medicament for increasing or inducing vascularization in a wound bed.

26. Use of the hydrogel of any one of claims 18 to 22 in the manufacture of a medicament for increasing or inducing angiogenesis in a wound bed.

27. A wound dressing comprising the biocompatible matrix material according to any one of claims 15 to 17.

28. A wound dressing comprising the hydrogel according to any one of claims 18 to 22.