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 sugar wherein the sugar consists of 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 sugar wherein the sugar consists of a D-deoxyribose sugar.

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 sugar wherein the sugar consists of 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 16, 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 sugar wherein the sugar consists of 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.