**CLAIMS**

1. A fucan-low endotoxin composition comprising less than about 0.2 endotoxin units per milligram of the fucan.

2. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.18 endotoxin units per milligram of the fucan.

3. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.16 endotoxin units per milligram of the fucan.

4. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.1 endotoxin units per milligram of the fucan.

5. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.09 endotoxin units per milligram of the fucan.

6. The fucan-low endotoxin composition of claim 1 wherein the fucan-low endotoxin composition comprises less than about 0.06 endotoxin units per milligram of the fucan.

7. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.04 endotoxin units per milligram of the fucan.

8. The fucan-low endotoxin composition of claim 1 wherein the fucan-low endotoxin composition comprises less than about 0.03 endotoxin units per milligram of the fucan.

9. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.02 endotoxin units per milligram of the fucan.

10. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.01 endotoxin units per milligram of the fucan.

11. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.007 endotoxin units per milligram of the fucan.

12. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.003 endotoxin units per milligram of the fucan.

13. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.002 endotoxin units per milligram of the fucan.

14. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.001 endotoxin units per milligram of the fucan.

15. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.0006 endotoxin units per milligram of the fucan.

16. The fucan-low endotoxin composition of claim 1, wherein the fucan-low endotoxin composition comprises less than about 0.0005 endotoxin units per milligram of the fucan.

17. The fucan-low endotoxin composition of any one of claims 1 to 16, wherein the fucan has a molecular weight distribution wherein at least 60% w/w of the distribution is greater than 100 kDa when measured using an aqueous gel permeation chromatography set up consisting essentially of:

one 300 mm analytical gel permeation chromatography column with a 7.8 mm inner diameter packed with hydroxylated polymethacrylate-based gel, having an effective molecular weight range of between about 50 kDa and about 5,000 kDa, one 300 mm analytical gel permeation chromatography column with a 7.8mm inner diameter packed with hydroxylated polymethacrylate-based gel, having an effective molecular weight range of between about 1 kDa and about 6,000 kDa and one 40 mm guard column with a 6 mm inner diameter packed with hydroxylated polymethacrylate-based gel, the two analytical gel permeation chromatography columns and the one guard column contained in a column compartment at about 30 ºC;

a refractive index detector at about 30 ºC;

0.1M sodium nitrate mobile phase run at 0.6 mL/min; and

quantification against a peak molecular weight standard curve consisting essentially of a first dextran standard with a peak molecular weight of about 2,200 kDa, a second dextran standard with a peak molecular weight of between about 720 kDa and about 760 kDa, a third dextran standard with a peak molecular weight between about 470 kDa and about 510 kDa, a fourth dextran standard with a peak molecular weight between about 370 kDa and about 410 kDa, a fifth dextran standard with a peak molecular weight between about 180 kDa and about 220 kDa, and a sixth dextran standard with a peak molecular weight between about 40 kDa and 55 kDa.

18. The fucan-low endotoxin composition of claim 17, wherein the fucan has a molecular weight distribution wherein at least 81% w/w of the distribution is greater than 200 kDa.

19. The fucan-low endotoxin composition of claim 17, wherein the fucan has a molecular weight distribution wherein at least 44% w/w of the distribution is greater than 500 kDa.

20. The fucan-low endotoxin composition of claim 17, wherein the fucan has a molecular weight distribution wherein at least 5% w/w of the distribution is greater than 1600 kDa.

21. The fucan-low endotoxin composition of any one of claims 17 to 20, wherein the fucan has a weight average molecular weight greater than 100 kDa.

22. The fucan-low endotoxin composition of any one of claims 1 to 21, wherein the fucan has a sulfation level of between about 20% w/w and 60% w/w.

23. The fucan-low endotoxin composition of any one of claims 1 to 22, wherein the fucan has a total carbohydrate content of between 27% w/w and 80% w/w.

24. The fucan-low endotoxin composition of claim 23, wherein the fucan has a total fucose content as a percentage of the total carbohydrate content of at least about 30% w/w.

25. The fucan-low endotoxin composition of claim 23 wherein the fucan has a total galactose content as a percentage of the total carbohydrate content below about 60% w/w.

26. The fucan-low endotoxin composition of any one of claims 1-to 25, wherein the fucan-low endotoxin composition when dissolved in water at a concentration of 50 mg/mL has a viscosity of between about 4 cP and 50 cP.

27. The fucan-low endotoxin composition of any one of claims 1 to 26 ,wherein the fucan-low endotoxin composition is a white solid.

28. The fucan-low endotoxin composition of any one of claims 1 to 27, wherein the fucan-low endotoxin composition when dissolved in water at a concentration from 1 mg/mL through 100 mg/mL forms a solution that is clear and colorless.

29. The fucan-low endotoxin composition of any one of claims 1 to 28, wherein the fucan comprises less than 5% w/w acetyl content.

30. The fucan-low endotoxin composition of any one of claims 1 to 29, wherein the fucan comprises an acetyl content of substantially 0% w/w when measured by 2D 1H-13C heteronuclear multiple quantum coherence at 70 ℃ with solvent signal suppression on a 600 MHz spectrometer equipped with 5-mm cold probe, in the range from 10-30 ppm in the carbon dimension, in 8 increments of 256-512 scans each.

31. An agent for treating a fibrous adhesion in an animal comprising the fucan-low endotoxin composition of any one of claims 1 to 30.

32. A medically acceptable fucan-low endotoxin composition comprising a therapeutically effective amount of the fucan-low endotoxin composition according to any one of claims 1 to 31, in a medically acceptable buffer or diluent.

33. A medically acceptable fucan-low endotoxin dosage comprising the medically acceptable fucan-low endotoxin composition of claim 32, wherein the medically acceptable fucan-low endotoxin dose has an endotoxin level below 250 EU.

34. The medically acceptable fucan-low endotoxin dosage of claim 33, wherein the medically acceptable fucan-low endotoxin dose has an endotoxin level below 50 EU.

35. The medically acceptable fucan-low endotoxin dosage of claim 33, wherein the medically acceptable fucan-low endotoxin dose has an endotoxin level below 20 EU.

36. The medically acceptable fucan-low endotoxin dosage of claim 33, wherein the medically acceptable fucan-low endotoxin dose has an endotoxin level below 2 EU.

37. The medically acceptable fucan-low endotoxin dosage of claim 33, wherein the medically acceptable fucan-low endotoxin dose has an endotoxin level below 0.1 EU.

38. The medically acceptable fucan-low endotoxin dosage of claim 33 wherein the medically acceptable fucan-low endotoxin dose has an endotoxin level below 0.01 EU.

39. The medically acceptable fucan-low endotoxin dosage of any one of claims 33 to 38, wherein the fucan-low endotoxin composition comprises a fucan with a molecular weight distribution in which at least 60% w/w of the fucan has a molecular weight greater than 100 kDa, a weight average molecular weight of between 300 kDa and 5,000 kDa, a sulfation level between 20% w/w and 60% w/w, a carbohydrate content of between 30% w/w and 80% w/w, and a fucose content as a percentage of the total carbohydrate content of between 30% w/w to 100% w/w.

40. The medically acceptable fucan-low endotoxin dosage of any one of claims 33 to 39, wherein the fucan-low endotoxin composition comprises a fucan with a molecular weight distribution in which at least 90% w/w of the fucan has a molecular weight greater than 100 kDa, a weight average molecular weight of between 600 kDa and 1,800 kDa, a sulfation level between 35% w/w and 60% w/w, a carbohydrate content of between 40% w/w and 65% w/w, and a fucose content as a percentage of the total carbohydrate content of at least about 80% w/w.

41. The medically acceptable fucan-low endotoxin dosage of any one of claims 33 to 40, wherein the fucan-low endotoxin composition comprises a fucan with a molecular weight distribution in which at least 90% w/w of the fucan has a molecular weight greater than 100 kDa, a weight average molecular weight of between 600 kDa and 1,800 kDa, a sulfation level between 35% w/w and 52% w/w, a carbohydrate content of between 40% w/w and 65% w/w, and a fucose content as a percentage of the total carbohydrate content of at least about 80% w/w.

42. A medical composition comprising between about 0.02 mg/mL and 100 mg/mL of the fucan-low endotoxin composition of any one of claims 1 to 30, wherein the medical composition is configured and composed to treat a disease or condition in an animal, wherein the disease or condition is a fibrous adhesion.