CLAIMS

What is claimed is:

1. Use of a composition comprising nanoparticles comprising rapamycin or a derivative thereof and an albumin in the manufacture of a medicament for treating restenosis in a blood vessel in an individual in need thereof, wherein the medicament is to be injected into the blood vessel wall or tissue surrounding the blood vessel wall, and wherein the treatment is characterized by inhibition of negative remodeling and/or vascular fibrosis in the blood vessel.

2. The use of claim 1, wherein the treatment is characterized by inhibition of vascular fibrosis in the blood vessel.

3. The use of claim 1 or 2, wherein the vascular fibrosis is medial vascular fibrosis or adventitial fibrosis.

4. The use of any one of claims 1-3, wherein the blood vessel is an artery.

5. The use of claim 4, wherein the artery is a coronary artery or a peripheral artery.

6. The use of claim 5, wherein the artery is selected from the group consisting of renal artery, cerebral artery, pulmonary artery, and artery in the leg.

7. The use of any one of claims 1-3, wherein the blood vessel is a vein.

8. The use of any one of claims 1-7, wherein the nanoparticle composition is to be injected into the blood vessel wall.

9. The use of any one of claims 1-7, wherein the nanoparticle composition is to be injected into the tissue surrounding the blood vessel wall.

10. The use of claim 9, wherein the nanoparticle composition is to be injected into the adventitial tissue of the blood vessel.

11. The use of any one of claims 1--10, wherein the nanoparticle composition is to be injected at a dose of about 0.001mg to about 100 mg.

12. The use of claim 11, where the nanoparticle composition is to be injected at a dose of about 0.05 mg to about 5 mg.

13. The use of any one of claims 1-12, wherein the injection volume of the nanoparticle composition is about 0.0lml to about 50ml.

14. The use of claim 13, wherein the injection volume of the nanoparticle composition is about 0.5 ml to about 5ml.

15. The use of any one of claims 1-14, wherein the nanoparticle composition is to be injected through a catheter with a needle.

16. The use of any one of claims 1-15, wherein the nanoparticle composition is to be injected at least once a year.

17. The use of any one of claims 1-16, wherein the nanoparticle composition is to be injected distal or proximal to the disease site.

18. The use of any one of claims 1-16, wherein the nanoparticle composition is to be injected at least about 2 cm away from the disease site.

19. The use of any one of claims 1-16, wherein the nanoparticle composition is to be injected at or adjacent to the disease site.

20. The use of any one of claims 1-19, wherein the individual has any one of: angina, myocardial infarction, congestive heart failure, cardiac arrhythmia, peripheral artery disease, claudication, or chronic limb ischemia.

21. The use of any one of claims 1- 20 wherein the nanoparticles in the composition have an average diameter of no greater than about 200 nm.

22. The use of claim 21, wherein the nanoparticles in the composition have an average diameter of no greater than about 100 nm.

23. The use of claim 22, wherein the nanoparticles in the composition have an average diameter of no less than about 70 nm.

24. The use of any one of claims 1-23, wherein the rapamycin or derivative thereof in the nanoparticles is coated with albumin.

25. The use of any one of claims 1-24, wherein the individual is human.

26. The use of any one of claims 1-25, wherein the use is to be carried out during a vascular interventional procedure.

27. The use of any one of claims 1-25, wherein the use is to be carried out after a vascular interventional procedure.

28. The use of claims 26 or 27, wherein the interventional procedure is angioplasty, stenting, or atherectomy.

29. A catheter with a needle, wherein the needle contains a composition comprising nanoparticles comprising rapamycin or a derivative thereof and an albumin.

30. The catheter of claim 29, wherein the nanoparticles in the composition have an average diameter of no greater than about 200 nm.

31. The catheter of claim 30, wherein the nanoparticles in the composition have an average diameter of no greater than about 100 nm.

32. The catheter of claim 31, wherein the nanoparticles in the composition have an average diameter of no less than about 70 nm.

33. The catheter of any one of claims 29-32, wherein the nanoparticles comprise rapamycin or a derivative thereof coated with albumin.

34. The catheter of any one of claims 29-33, wherein the needle is deployable.

CLAIMS

What is claimed is:

1. Use of a composition comprising nanoparticles comprising rapamycin or a derivative thereof and an albumin in the manufacture of a medicament for treating a disease associated with negative remodeling in a blood vessel in an individual in need thereof, wherein the medicament is to be injected into the blood vessel wall or tissue surrounding the blood vessel wall.

2. Use of a composition comprising nanoparticles comprising rapamycin or a derivative thereof and an albumin in the manufacture of a medicament for treating a disease associated with vascular fibrosis in a blood vessel in an individual in need thereof, wherein the medicament is to be injected into the blood vessel wall or tissue surrounding the blood vessel wall.

3. The use of claim 2, wherein the vascular fibrosis is medial vascular fibrosis or adventitial fibrosis.

4. The use of any one of claims 1-3, wherein the blood vessel is an artery.

5. The use of claim 4, wherein the artery is a coronary artery or a peripheral artery.

6. The use of claim 5, wherein the artery is selected from the group consisting of renal artery, cerebral artery, pulmonary artery, and artery in the leg.

7. The use of any one of claims 1-3, wherein the blood vessel is a vein.

8. The use of any one of claims 1-7, wherein the nanoparticle composition is to be injected into the blood vessel wall.

9. The use of any one of claims 1-7, wherein the nanoparticle composition is to be injected into the tissue surrounding the blood vessel wall.

10. The use of claim 9, wherein the nanoparticle composition is to be injected into the adventitial tissue of the blood vessel.

11. The use of any one of claims 1--10, wherein the nanoparticle composition is to be injected at a dose of about 0.001mg to about 100 mg.

12. The use of claim 11, where the nanoparticle composition is to be injected at a dose of about 0.05 mg to about 5 mg.

13. The use of any one of claims 1-12, wherein the injection volume of the nanoparticle composition is about 0.0lml to about 50ml.

14. The use of claim 13, wherein the injection volume of the nanoparticle composition is about 0.5 ml to about 5ml.

15. The use of any one of claims 1-14, wherein the nanoparticle composition is to be injected through a catheter with a needle.

16. The use of any one of claims 1-15, wherein the nanoparticle composition is to be injected at least once a year.

17. The use of any one of claims 1-16, wherein the nanoparticle composition is to be injected distal or proximal to the disease site.

18. The use of any one of claims 1-16, wherein the nanoparticle composition is to be injected at least about 2 cm away from the disease site.

19. The use of any one of claims 1-16, wherein the nanoparticle composition is to be injected at or adjacent to the disease site.

20. The use of any one of claims 1-19, wherein the individual has any one of: angina, myocardial infarction, congestive heart failure, cardiac arrhythmia, peripheral artery disease, claudication, or chronic limb ischemia.

21. The use of any one of claims 1- 20 wherein the nanoparticles in the composition have an average diameter of no greater than about 200 nm.

22. The use of claim 21, wherein the nanoparticles in the composition have an average diameter of no greater than about 100 nm.

23. The use of claim 22, wherein the nanoparticles in the composition have an average diameter of no less than about 70 nm.

24. The use of any one of claims 1-23, wherein the rapamycin or derivative thereof in the nanoparticles is coated with albumin.

25. The use of any one of claims 1-24, wherein the individual is human.

26. The use of any one of claims 1-25, wherein the use is to be carried out during a vascular interventional procedure.

27. The use of any one of claims 1-25, wherein the use is to be carried out after a vascular interventional procedure.

28. The use of claims 26 or 27, wherein the interventional procedure is angioplasty, stenting, or atherectomy.

29. A catheter with a needle, wherein the needle contains a composition comprising nanoparticles comprising rapamycin or a derivative thereof and an albumin.

30. The catheter of claim 29, wherein the nanoparticles in the composition have an average diameter of no greater than about 200 nm.

31. The catheter of claim 30, wherein the nanoparticles in the composition have an average diameter of no greater than about 100 nm.

32. The catheter of claim 31, wherein the nanoparticles in the composition have an average diameter of no less than about 70 nm.

33. The catheter of any one of claims 29-32, wherein the nanoparticles comprise rapamycin or a derivative thereof coated with albumin.

34. The catheter of any one of claims 29-33, wherein the needle is deployable.