What is claimed is:

1. The use of stem cells expressing an isolated mutant form of stromal cell derived factor-1 (SDF-1) peptide comprising the formula of a mutant SDF-1 (mSDF-1), mSDF-1-Y_z, X_p-mSDF-1, or X_p-mSDF-1-Y_z, in the manufacture of a medicament for intravenous administration for the treatment or amelioration of tissue damage in a subject in need thereof, said tissue damage resulting from a disease or condition, wherein said SDF-1 is a peptide comprising the amino acid sequence of at least amino acids 1-8 of SEQ ID NO:53 and which is optionally extended at the C-terminus by all or any portion of the remaining sequence of SEQ ID NO:53, said SEQ ID NO:53 comprising the amino acid sequence:

K P X_3 X_4 X_5 X_6 Y R C P C R F F E S H V A R A N V K H L K I L N T P N C A L Q I V A R L K N N N R Q V C I D P K L K W I Q E Y L E K A L N K (SEQ ID NO:53), wherein X_3 is valine, histidine, or cysteine; X_4 is serine or valine; X_5 is leucine, proline, threonine, or valine; and X_6 is serine, cysteine, or glycine; and wherein

a) X_p is a proteinogenic amino acid(s) or a protease protective organic group and p is any integer from 1 to 4;

b) Y_z is a proteinogenic amino acid(s) or protease protective organic group and z is any integer from 1 to 4;

c) said mSDF-1 or said mSDF-1-Y_z maintains chemoattractant activity for T cells and is inactivated by matrix metalloproteinase-2 (MMP-2), matrix metalloproteinase-9 (MMP-9), leukocyte elastase, and/or cathepsin G at a rate that is at least 50% less than the rate of inactivation of native SDF-1; and

d) said X_p-mSDF-1 or said X_p-mSDF-1-Y_z maintains chemoattractant activity for T cells, is inactivated by dipeptidyl peptidase IV (DPPIV) at a rate that is at least 50% less than the rate at which native SDF-1 is inactivated, and is inactivated by MMP-2, MMP-9, leukocyte elastase, and/or cathepsin G at a rate that is at least 50% less than the rate of inactivation of native SDF-1;

wherein said isolated mutant form of SDF-1 does not comprise the amino acid sequence of amino acids 1-8 of SEQ ID NO:52;

wherein said stem cells expressing said isolated mutant form of SDF-1 are mesenchymal precursor cells expressing STRO-1; and

wherein said medicament is to be administered intravenously in an amount sufficient to treat or ameliorate said tissue damage in said subject.

2. The use according to claim 1, wherein said peptide is an X_p-mSDF-1 peptide or X_p-mSDF-1-Y_z peptide and wherein X is a serine and p is 1.

3. The use according to claim 1, wherein said peptide is an mSDF-1-Y_z peptide or X_p-mSDF-1-Y_z peptide and wherein Y is a serine and z is 1.

4. The use according to any one of claims 1-3, wherein said mutant form of SDF-1 is a fusion protein comprising the formula A-$(L)_n$-Fc, wherein: A is the isolated mutant form of SDF-1; n is an integer from 0-3; L is a linker sequence of 3-9 amino acids; and Fc is an Fc peptide from an Fc region of an immunoglobulin.

5. The use according to claim 4, wherein n=1 and L is GGGGS (SEQ ID NO:66).

6. The use according to any one of claims 1-5, wherein exogenous stem cells are also to be administered.

7. The use according to claim 6, wherein the exogenous stem cells are mesenchymal stem cells or mesenchymal precursor cells.

8. The use according to any one of claims 1-7, wherein said disease or condition is selected from the group consisting of stroke, limb ischemia, tissue damage due to trauma, myocardial infarction, peripheral vascular disease, chronic heart failure, diabetes, diabetic wound healing, organ disease or injury, CNS disease or injury, and inflammatory conditions .

9. The use according to claim 8, wherein said disease or condition is myocardial infarction.

10. The use according to claim 8, wherein said disease or condition is peripheral vascular disease.

11. The use according to claim 8, wherein said disease or condition is diabetes.

12. The use according to claim 8, wherein said disease or condition is diabetic wound healing.

13. The use according to claim8, wherein the organ disease or injury is kidney or liver disease or injury.

14. The use according to claim 8, wherein the inflammatory condition is rheumatoid arthritis, Crohn’s disease, or graft-versus-host disease.

15. The use according to any one of claims 1-14, wherein the medicament formed from said stem cells is to be administered to a peripheral or central vein.

16. The use according to any one of claims 1-15, wherein the medicament formed from said stem cells is to be administered within minutes after onset of said disease, condition, or tissue damage.

17. The use according to any one of claims 1-15, wherein the medicament formed from said stem cells is to be administered within 12 hours of onset of said disease, condition, or tissue damage.

18. The use according to any one of claims 1-15, wherein the medicament formed from said stem cells is to be administered at 24 hours or more after onset or diagnosis of said disease, condition, or tissue damage.

19. The use according to any one of claims 1-15, wherein the medicament formed from said stem cells or composition is to be administered 48 hours or more after onset or diagnosis of said disease, condition, or tissue damage.

20. The use according to any one of claims 1-15, wherein the medicament formed from said stem cells or composition is to be administered 7 days or more after onset or diagnosis of said disease, condition, or tissue damage.

21. The use according to any one of claims 1-15, wherein the medicament formed from said stem cells or composition is to be administered one month or more after onset or diagnosis of said disease, condition, or tissue damage.

22. The use according to any one of claims 1-15, wherein the medicament formed from said stem cells or composition is to be administered six months or more after onset or diagnosis of said disease, condition, or tissue damage.

23. The use according to any one of claims 1-22, wherein the medicament is to be combined with an intra-arterial administration of SDF-1 or a mutant SDF-1 peptide or stem cells expressing SDF-1 or a mutant SDF-1 peptide.

24. The use according to claim 23, wherein said intra-arterial administration is to occur prior to the intravenous administration.

25. The use according to any one of claims 16-24, wherein said disease or condition is tissue damage due to trauma, organ disease, inflammatory disease, myocardial infarction, or peripheral vascular disease.

26. The use according to any one of claims 16-24, wherein said disease or condition is a cardiovascular disease.

27. The use according to any one of claims 1-26, wherein the medicament formed from said stem cells is to be administered one or more times until said tissue damage is reduced, repaired, or new blood vessel formation occurs.

28. The use according to any one of claims 1-26, wherein the medicament formed from said stem cells is to be administered one or more times to ameliorate one or more symptoms of said disease or condition.

29. The use according to any one of claims 1-28, wherein said tissue is a cardiac tissue.

30. The use according to any one of claims 1-28, wherein said tissue is a vascular tissue.

31. The use according to any one of claims 1-28, wherein said tissue is organ tissue.

32. The use according to claim 31, wherein said organ is kidney or liver.

33. The use according to any one of claims 1-32, wherein said mutant form of SDF-1 comprises the sequence of SEQ ID NO: 67.

34. The use according to any one of claims 1-32, wherein said SDF-1 comprises the sequence of SEQ ID NO: 69.