CLAIMS

What is claimed is:

1. A fluidized composition for treating damaged biological tissue, comprising:

an extracellular matrix (ECM) composition, said ECM composition including an ECM scaffold component derived from a mammalian source;

and at least one additional bioactive component selected from the group consisting of a statin and a chitin derivative.

2. The composition of Claim 1, wherein said ECM scaffold component comprises ECM material selected from the group consisting of small intestine submucosa (SIS), urinary bladder submucosa (UBS), urinary basement membrane (UBM), liver basement membrane (LBM), stomach submucosa (SS), collagen from animal sources, collagen from plant sources, synthesized extracellular matrix in cultures from cells, dermal extracellular matrix, subcutaneous extracellular matrix, large intestine extracellular matrix, placental extracellular matrix, ornamentum extracellular matrix, heart extracellular matrix, and lung extracellular matrix.

3. The composition of Claim 2, wherein said ECM material comprises particulate ECM material.

4. The composition of Claim 3, wherein said particulate ECM material has a particulate size no greater than approximately 500 microns.

5. The composition of Claim 2, wherein said particulate ECM material has a particulate size in the range of approximately 20 – 300 microns.

6. The composition of Claim 3, wherein said ECM composition includes a fluidizing component selected from the group consisting of water and saline.

7. The composition of Claim 6, wherein said ECM composition comprises in the range of approximately 0.001 – 200 mg/ml of said fluidizing component.

8. The composition of Claim 1, wherein said statin is selected from the group consisting of atorvastatin, cerivastatin, fluvastatin, lovastatin, mevastatin, pitavastatin, pravastatin, rosuvastatin and simvastatin.

9. The composition of Claim 1, wherein said chitin derivative comprises chitosan.

10. The composition of Claim 1, wherein said first bioactive component comprises a pharmacological agent selected from the group consisting of antibiotics, antifungal agents, anti-viral agents, anti-pain agents, anesthetics, analgesics, steroidal anti-inflammatories, non-steroidal anti-inflammatories, anti-neoplastics, anti-spasmodics, modulators of cell-extracellular matrix interactions, proteins, hormones, enzymes and enzyme inhibitors, anticoagulants, antithrombic agents, DNA, RNA, modified DNA and RNA, NSAIDs, inhibitors of DNA, polypeptides, oligonucleotides, polynucleotides, nucleoproteins, and vasodilating agents.

11. The composition of Claim 1, wherein said first bioactive component comprises a cell selected from the group consisting of a human embryonic stem cell, fetal cell, fetal cardiomyocyte, myofibroblast, mesenchymal stem cell, autotransplanted expanded cardiomyocyte, adipocyte, totipotent cell, pluripotent cell, blood stem cell, myoblast, adult stem cell, bone marrow cell, mesenchymal cell, embryonic stem cell, parenchymal cell, epithelial cell, endothelial cell, mesothelial cell, fibroblast, myofibroblast, osteoblast, chondrocyte, exogenous cell, endogenous cell, stem cell, hematopoetic stem cell, pluripotent stem cell, bone marrow-derived progenitor cell, progenitor cell, myocardial cell, skeletal cell, undifferentiated cell, multi-potent progenitor cell, unipotent progenitor cell, monocyte, cardiomyocyte, cardiac myoblast, skeletal myoblast, macrophage, capillary endothelial cell, xenogenic cell, and allogenic cell.

CLAIMS

1. A composition for reducing inflammation of damaged cardiovascular tissue and inducing regeneration of cardiovascular tissue, comprising:

an extracellular matrix (ECM) composition comprising acellular ECM from a mammalian tissue source selected from the group consisting of small intestine submucosa (SIS), urinary bladder submucosa (UBS), urinary basement membrane (UBM), liver basement membrane (LBM), stomach submucosa (SS), animal collagen, heart tissue and placental tissue,

and a statin selected from the group consisting of atorvastatin, cerivastatin, fluvastatin, lovastatin, mevastatin, pitavastatin, pravastatin, rosuvastatin and simvastatin,

said ECM composition being configured to inhibit localized expression of proinflammatory chemokine monocyte chemoattractant protein-1 (MCP-1) and proinflammatory receptor C-C chemokine receptor type-2 (CCR2) when administered to cardiovascular tissue,

whereby said ECM composition reduces inflammation of said damaged cardiovascular tissue and induces bioremodeling and regeneration of new cardiovascular tissue.

2. The composition of Claim 1, wherein said ECM comprises particulate ECM.

3. The composition of Claim 2, wherein said ECM composition further comprises a fluidizing component selected from the group consisting of water and saline.

4. The composition of Claim 3, wherein said ECM composition comprises in the range of approximately 0.001 – 200 mg/ml of said fluidizing component.

5. The composition of Claim 1, wherein said ECM composition further comprises chitosan.