subjects. In yet another embodiment, the subject suffers from ischemic events.

[0014] In an aspect, the disclosure provides the use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating a subject suffering from ischemic injury or an acute ischemic event to reduce ischemic injury, wherein the subject has a thrombotic disorder, cancer, myeloproliferative disorder, multiple myeloma, surgery, trauma, heparin-induced thrombocytopenia, pregnancy, inflammatory bowel disease, nephrotic syndrome, paroxysmal nocturnal hemoglobinuria, hyperviscosity syndrome, or Waldenstrom's macroglobulinemia, or is immobilized, is using oral contraceptive, is taking thalidomide or its congeners optionally in combination with steroid, or wherein the ischemic injury is the result of a tissue injury, a disease or a stroke, and wherein the subject is not suffering from hypercholesterolemia or type II diabetes. In another embodiment, the disclosure provides the use of cysteamine, cystamine, or a pharmaceutically acceptable salt of any of the foregoing in the manufacture of a medicament for treating a subject at risk of thrombosis and ischemic injury resulting therefrom to reduce the risk of ischemic injury resulting from thrombosis. In another aspect, the disclosure provides the use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating a subject at risk of thrombosis to reduce the risk of ischemic injury due to thrombosis, wherein the subject has cancer, myeloproliferative disorder, multiple myeloma, surgery, trauma, heparin-induced thrombocytopenia, pregnancy, inflammatory bowel disease, nephrotic syndrome, paroxysmal nocturnal hemoglobinuria, hyperviscosity syndrome, or Waldenstrom's macroglobulinemia, or is immobilized, is using oral contraceptive, is taking thalidomide or its congeners optionally in combination with steroid, or wherein the ischemic injury is the result of a tissue injury, a disease or a stroke, and wherein the subject is not suffering from hypercholesterolemia or type II diabetes. In another aspect, the disclosure provides the use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for increasing the ratio of low molecular weight (LMW) adiponectin levels to medium (MMW) and/or high molecular weight (HMW)

adiponectin levels in a subject in need thereof, to increase the ratio of low molecular weight adiponectin levels compared to a baseline prior to contacting the subject with the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof, wherein the subject is not suffering from hypercholesterolemia or type II diabetes. In another aspect, the disclosure provides the use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating a subject having irregular or abnormal ratios of high molecular weight (HMW):medium molecular weight (MMW) adiponectin, HMW:low molecular weight (LMW) adiponectin, or MMW:LMW adiponectin, to improve adiponectin ratios in the subject compared to a subject that did not receive the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof. In another aspect, the disclosure provides the use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating an ischemic event in a subject, wherein the subject has improved behavioral outcome compared to a subject that did not receive the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof, wherein the subject has a thrombotic disorder, cancer, myeloproliferative disorder, multiple myeloma, surgery, trauma, immobilization, oral contraceptive use, administration of thalidomide or its congeners optionally in combination with steroid, heparin-induced thrombocytopenia, pregnancy, inflammatory bowel disease, nephrotic syndrome, paroxysmal nocturnal hemoglobinuria, hyperviscosity syndrome, or Waldenstrom's macroglobulinemia, or wherein the ischemic event is the result of a tissue injury, a disease or a stroke, and wherein the subject is not suffering from hypercholesterolemia or type II diabetes. In another aspect, the disclosure provides the use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for increasing adiponectin levels in a subject compared to a baseline prior to contacting the subject with the cysteamine, cystamine, or a pharmaceutically acceptable salt of any of the foregoing. The disclosure also provides a cysteamine, cysteamine derivative, cystamine, cystamine derivative or a pharmaceutically acceptable salt thereof for use in treating ischemia, ischemic injury, an acute ischemic event, thrombosis or ischemic injury resulting from thrombosis. In one embodiment, the ischemia or ischemic injury is the

result of a thrombotic disorder. In another embodiment, the thrombotic disorder is sickle cell disease, deep vein thrombosis, pulmonary embolism, hypercoagulable state, thrombophilia, Factor V Leiden, Antithrombin III deficiency, Protein C deficiency, Protein S deficiency, Prothrombin gene mutation (G20210A), Hyperhomcysteinemia, antiphospholipid antibody syndrome (APS), anticardiolipin antibody (ACLA) thrombosis syndrome, or lupus anticoagulant (LA) syndrome. In yet another embodiment, the cysteamine, cysteamine derivative, cystamine, cystamine derivative or a pharmaceutically acceptable salt thereof is cysteamine, a cysteamine derivative, or a pharmaceutically acceptable salt thereof. In yet a further embodiment, the ischemia is caused by a risk factor selected from the group consisting of high blood pressure, tobacco use, carotid or other artery disease, peripheral artery disease, atrial fibrillation, other heart disease, transient ischemic attacks (TIAs), a blood disorders, high blood cholesterol, physical inactivity, obesity, excessive alcohol use, illegal drug use, a prior stroke, Sickle Cell Anemia and prior heart attack. In another embodiment, the cysteamine, cysteamine derivative, cystamine, cystamine derivative or a pharmaceutically acceptable salt thereof is formulated for intraperitoneal administration. In any of the foregoing embodiments, the cysteamine, cysteamine derivative, cystamine, cystamine derivative or a pharmaceutically acceptable salt thereof is administered intravascularly. In yet a further embodiment of any of the foregong, the cysteamine, cysteamine derivative, cystamine, cystamine derivative or a pharmaceutically acceptable salt thereof is formulated for oral administration. In a further embodiment, the cysteamine, cysteamine derivative, cystamine, cystamine derivative or a pharmaceutically acceptable salt thereof is

Claims:

1. Use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating a subject suffering from ischemic injury or an acute ischemic event to reduce ischemic injury, wherein the subject has a thrombotic disorder, cancer, myeloproliferative disorder, multiple myeloma, surgery, trauma, heparin-induced thrombocytopenia, pregnancy, inflammatory bowel disease, nephrotic syndrome, paroxysmal nocturnal hemoglobinuria, hyperviscosity syndrome, or Waldenstrom's macroglobulinemia, or is immobilized, is using oral contraceptive, is taking thalidomide or its congeners optionally in combination with steroid, or wherein the ischemic injury is the result of a tissue injury, a disease or a stroke, and wherein the subject is not suffering from hypercholesterolemia or type II diabetes.

2. The use of claim 1 wherein the ischemic injury is the result of a thrombotic disorder.

3. The use of claim 2, wherein the thrombotic disorder is sickle cell disease, deep vein thrombosis, pulmonary embolism, cardiac embolism, hypercoagulable state, thrombophilia, Factor V Leiden, Antithrombin III deficiency, Protein C deficiency, Protein S deficiency, Prothrombin gene mutation (G20210A), Hyperhomcysteinemia, antiphospholipid antibody syndrome (APS), anticardiolipin antibody (ACLA) thrombosis syndrome, or lupus anticoagulant (LA) syndrome.

4. The use of any of claims 1 to 3, wherein the amount of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof is effective to reduce the risk of ischemic injury resulting from thrombosis.

5. Use of cysteamine, cystamine, or a pharmaceutically acceptable salt of any of the foregoing in the manufacture of a medicament for treating a subject at risk of thrombosis and ischemic injury resulting therefrom to reduce the risk of ischemic injury resulting from thrombosis.

6. Use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating a subject at risk of thrombosis to reduce the risk of ischemic injury due to thrombosis, wherein the subject has cancer, myeloproliferative disorder, multiple myeloma, surgery, trauma, heparin-induced thrombocytopenia, pregnancy, inflammatory bowel disease, nephrotic syndrome, paroxysmal nocturnal hemoglobinuria, hyperviscosity syndrome, or Waldenstrom's macroglobulinemia, or is immobilized, is using oral contraceptive, is taking thalidomide or its congeners optionally in combination with steroid, or wherein the ischemic injury is the result of a tissue injury, a disease or a stroke, and wherein the subject is not suffering from hypercholesterolemia or type II diabetes.

7. The use of claim 1 or 6, wherein the injury is a reperfusion injury.

8. The use of claim 7, wherein the reperfusion injury is a result of surgery or organ transplant.

9. The use of claim 1 or 6, wherein the disease is Sickle Cell Disease.

10. The use of any one of claims 1 to 9, wherein the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof is administered within 72 hours after an ischemic event.

11. The use of any one of claims 1 to 10, wherein the cysteamine, cystamine,

30. The use of any of the foregoing claims, wherein the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof is to be administered continuously for a period of days, weeks or months.

31. Use of a cysteamine, cystamine, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating an ischemic event in a subject, wherein the subject has improved behavioral outcome compared to a subject that did not receive the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof, wherein the subject has a thrombotic disorder, cancer, myeloproliferative disorder, multiple myeloma, surgery, trauma, heparin-induced thrombocytopenia, pregnancy, inflammatory bowel disease, nephrotic syndrome, paroxysmal nocturnal hemoglobinuria, hyperviscosity syndrome, or Waldenstrom's macroglobulinemia, or is immobilized, is using oral contraceptive, is taking thalidomide or its congeners optionally in combination with steroid, or wherein the ischemic event is the result of a tissue injury, a disease or a stroke, and wherein the subject is not suffering from hypercholesterolemia or type II diabetes.

32. The use of claim 31, wherein the medicament increases the subject's adiponectin levels.

33. The use of claim 31 or 32, wherein the total daily dose of the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof is about 0.5-4.0 g/m^2.

34. The use of any of claims 31 to 33, wherein the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof is to be administered intraperitoneally.

35. The use of any of claims 31 to 34, wherein cysteamine, cystamine, or a pharmaceutically acceptable salt thereof is to be administered orally.

36. The use of any of claims 31 to 35, wherein the cysteamine, cystamine, or a pharmaceutically acceptable salt thereof is a delayed or controlled release dosage form that provides increased delivery of the