$CD25^+$), the levels of Temra cells ($CD45RA^+$, $CCR7^-$), the $CD4^+$:$CD8^+$ T cell ratio, and the TNF-α concentration in serum.

[00012a] In one aspect, the present disclosure refers to the use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of exhausted B cells ($CD19^+$, $CD27^-$, IgD^-) in a sample of the subject's serum decreases by at least 25% as compared to the number of exhausted B cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

[00012b] In another aspect, the present disclosure refers to the use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of switched memory B cells ($CD19^+$, $CD27^{high}$, IgD^-) in a sample of the subject's serum increases by at least 100% as compared to the number of switched memory B cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

[00012c] In another aspect, the present disclosure refers to the use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of B-cells expressing intracellular TNF-α in a sample of the subject's serum decreases by at least 30% as compared to the number of B-cells expressing intracellular TNF-α in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

[00012d] In yet another aspect, the present disclosure refers to the use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of early activated T-cells ($CD3^+$, $CD69^+$) in a sample of the subject's serum decreases by at least 30% as compared to the number of early activated T-cells in a sample of the subject's serum prior to administration of said population of isolated

allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

[00012e] In yet another aspect, the present disclosure refers to the use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of chronic activated T-cells ($CD3^+$, $CD25^+$) in a sample of the subject's serum decreases by at least 70% as compared to the number of chronic activated T-Cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

[00012f] In yet another aspect, the present disclosure refers to the use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of Temra cells ($CD45RA^+$, $CCR7^-$) in a sample of the subject's serum decreases by at least 40% as compared to the number of Temra cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

[00012g] In yet another aspect, the present disclosure refers to the use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the TNF-α concentration in a sample of the subject's serum decreases by at least 80% as compared to the TNF-α concentration in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

[00013] One example of the disclosure relates to a method of treating non-ischemic dilated cardiomyopathy in a subject, comprising administering a therapeutically effective amount of a population of isolated allogeneic human mesenchymal stem cells to a subject in need thereof, wherein the number of exhausted B cells ($CD19^+$, $CD27^-$, IgD^-) in a sample of the subject' serum decreases by at least 25% as compared to the number of exhausted B cells in a sample of the subject's serum prior to administration of the population of isolated allogeneic human mesenchymal stem cells, thereby treating the non-ischemic dilated cardiomyopathy.

[00014] Another example of the disclosure relates to a method of treating non-ischemic dilated cardiomyopathy in a subject, comprising administering a therapeutically effective amount of a population of isolated allogeneic human mesenchymal stem cells to a subject in need thereof, wherein the number of switched memory B cells ($CD19^{+}$, $CD27^{high}$, IgD^{-}) in a sample of the subject's serum increases by at least 100% as compared to the number of switched memory B cells in a sample of the subject's serum prior to administration of the

WHAT IS CLAIMED IS:

1. Use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of exhausted B cells ($CD19^+$, $CD27^-$, IgD^-) in a sample of the subject's serum decreases by at least 25% as compared to the number of exhausted B cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

2. Use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of switched memory B cells ($CD19^+$, $CD27^{high}$, IgD^-) in a sample of the subject's serum increases by at least 100% as compared to the number of switched memory B cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

3. Use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of B-cells expressing intracellular TNF-α in a sample of the subject's serum decreases by at least 30% as compared to the number of B-cells expressing intracellular TNF-α in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

4. Use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of early activated T-cells ($CD3^+$, $CD69^+$) in a sample of the subject's serum decreases by at least 30% as compared to the number of early activated T-cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

5. Use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of chronic activated T-cells

($CD3^+$, $CD25^+$) in a sample of the subject's serum decreases by at least 70% as compared to the number of chronic activated T-Cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

6. Use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the number of Temra cells ($CD45RA^+$, $CCR7^-$) in a sample of the subject's serum decreases by at least 40% as compared to the number of Temra cells in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

7. Use of a population of isolated allogeneic human bone marrow-derived mesenchymal stem cells in the manufacture of a medicament for treating non-ischemic dilated cardiomyopathy in a subject in need thereof, wherein the TNF-α concentration in a sample of the subject's serum decreases by at least 80% as compared to the TNF-α concentration in a sample of the subject's serum prior to administration of said population of isolated allogeneic human bone marrow-derived mesenchymal stem cells, thereby treating said non-ischemic dilated cardiomyopathy.

8. The use of any one of claims 1-7, wherein the subject is a human.

~~**9.** The use of any one of claims 1-8, wherein the mesenchymal stem cells are bone marrow-derived mesenchymal stem cells.~~

~~**10.**~~**9.** The use of any one of claims 1-~~9~~8, wherein the mesenchymal stem cells do not express STRO-1.

~~**11.**~~**10.** The use of any one of claims 1-7, wherein the mesenchymal stem cells do not express CD45.

~~**12.**~~**11.** The use of any one of claims 1-~~11~~10, wherein the mesenchymal stem cells do not express fibroblast surface markers or have a fibroblast morphology.

~~**13.**~~**12.** The use of any one of claims 1-~~12~~11, wherein the mesenchymal stem cells are not genetically manipulated.

~~**14.**~~**13.** The use of any one of claims 1-~~13~~12, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered in a single dose.

~~**15.**~~**14.** The useof any one of claims 1-~~13~~12, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered in two or more doses.

~~16.~~15. The use of any one of claims 1-~~13~~12, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered at least yearly.

~~17.~~16. The use of any one of claims 1-~~16~~15, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered systemically.

~~18.~~17. The use of any one of claims 1-~~17~~16, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered by infusion or direct injection.

~~19.~~18. The use of any one of claims 1-~~18~~17, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered intravenously, intraarterially, or intraperitoneally.

~~20.~~19. The use of claim ~~19~~18, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered intravenously.

~~21.~~20. The use of any one of claims 1-~~16~~15, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered intramuscularly, intravenously, intraarterially, intraperitoneally, subcutaneously, intradermally, orally, transendocardially, or intranasally.

~~22.~~21. The use of claim ~~21~~20, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered intramuscularly.

~~23.~~22. The use of any one of claims 1-~~22~~21, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered at a dose of about $20x10^6$ mesenchymal stem cells.

~~24.~~23. The use of any one of claims 1-~~22~~21, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered at a dose of about $100x10^6$ mesenchymal stem cells.

~~25.~~24. The use of any one of claims 1-~~22~~21, wherein the isolated population of allogeneic mesenchymal stem cells is to be administered at a dose of about $200x10^6$ mesenchymal stem cells.

~~26.~~25. The use of any one of claims 1-~~25~~24, wherein the isolated population of allogeneic mesenchymal stem cells are to be obtained from a human donor and wherein a step of MHC matching of the human donor to the subject is not employed prior to the administration of the isolated population of allogeneic mesenchymal stem cells to the subject.