CLAIMS:

1. Use of a population of cells enriched for STRO-1$^+$ cells in the manufacture of a medicament for reducing weight of a subject.~~.~~

2. Use of a population of cells enriched for STRO-1$^+$ cells in the manufacture of a medicament for treating or preventing excessive weight or obesity in a subject.

3. The use of claim 1 or 2, wherein administration of the population ~~and/or the progeny and/or the soluble factors~~ reduces body weight by at least about 3% about 4 weeks after the administration.

4. ~~Use of a population of cells enriched for STRO-1$^+$ cells an in the manufacture of a medicament for treating or preventing non-diabetic~~ The use of claim 1 or 2, wherein the subject suffers from a metabolic syndrome or a symptom thereof. ~~in a subject.~~

5. ~~Use~~The use of claim 1 or 2, wherein use of ~~a~~the population of cells enriched for STRO-1$^+$ cells ~~in the manufacture of a medicament for reducing~~reduces elevated triglycerides, ~~reducing~~reduces elevated low density lipoproteins, ~~increasing~~increases reduced high density lipoproteins, ~~increasing~~increases reduced lipoprotein index and/or obesity in a subject suffering from metabolic disorder.

6. The use of claim 4, wherein the symptom of metabolic syndrome is selected from the group consisting of elevated triglycerides, elevated low density lipoproteins, reduced high density lipoproteins, reduced lipoprotein index, elevated fasting glucose levels, elevated fasting insulin, reduced glucose clearance following feeding, insulin resistance, impaired glucose tolerance, obesity and combinations thereof.

7. The use of any one of claims 4 to 6, wherein administration of the population ~~and/or the progeny and/or the soluble factors~~ results in one or more of the following:

(i) reduced triglycerides;

(ii) reduced low density lipoproteins;

(iii) increased high density lipoproteins;

(iv) increased lipoprotein index;

(v) reduced fasting glucose levels;

(vi) increased insulin secretion by the pancreas;

(vii) increased glucose clearance following feeding;

(viii) reduced insulin resistance; and

(ix) reduced body weight.

8. The use of any one of claims 1 to 7 comprising using a population of cells enriched for STRO-1^{bright} cells.

9. The use of any one of claims 1 to 8, wherein the population enriched for STRO-1^{+} cells are administered systemically.

10. The use of any one of claims 1 to 9, wherein the population is administered a plurality of times.

11. The use of claim 10, wherein the population is administered once every four or more weeks.

12. The use of any one of claims 1 to 11 comprising administering a dose of the population sufficient to achieve one or more of the following:

(i) reduce triglycerides;

(ii) reduce low density lipoproteins;

(iii) increase high density lipoproteins;

(iv) increase lipoprotein index;

(v) reduce fasting glucose levels;

(vi) increase insulin secretion by the pancreas;

(vii) increase glucose clearance following feeding;

(viii) reduce insulin resistance; and

(ix) reduce body weight.

13. The use of any one of claims 1 to 12, wherein the medicament comprises an amount of cells sufficient to administer between 0.1 x 10^6 to 5 x 10^6 STRO-1^+ cells.

14. The use of any one of claims 1 to 12, wherein the medicament comprises an amount of cells sufficient to administer between 0.3 x 10^6 to 2 x 10^6 STRO-1^+ cells.

15. The use of any one of claims 1 to 12 wherein the medicament comprises an amount of cells sufficient to administer a low dose of STRO-1^+ cells.

16. The use of claim 15, wherein the low dose of STRO-1^+ cells ~~and/or progeny thereof~~ comprises between 0.1 x 10^5 and 0.5 x 10^6 STRO-1^+ cells.

17. The use of claim 15, wherein the low dose of STRO-1^+ cells ~~and/or progeny thereof~~ comprises about 0.3 x 10^6 STRO-1^+ cells.

18. The use of any one of claims 1 to 17, wherein the population enriched for STRO-1^+ cells are autogeneic or allogeneic.

19. The use of any one of claims 1 to 18, wherein the population enriched for STRO-1^+ cells have been culture expanded prior to administration and/or prior to obtaining the soluble factors.

20. The use of any one of claims 1 to 19, wherein the population enriched for STRO-1^+ cells are STRO-1^{bri}, and/or express tissue non-specific alkaline phosphatase (TNAP).

21. The use of any one of claims 1 to 20, wherein the medicament is in the form of a composition comprising said STRO-1^+ cells and a carrier and/or excipient.