Claims

1. Use of a dipeptidyl peptidase-4 (DPP-4) inhibitor, or a pharmaceutical composition containing said inhibitor, in the manufacture of a medicament for:

(a) treating or preventing heart failure; or

(b) treating cardiac ischaemic reperfusion injury,

in a subject, wherein said subject: (a) has been administered extracorporeal cardiac shockwave therapy and wherein said inhibitor is to be administered after administration of said shockwave therapy; or (b) is to be administered extracorporeal cardiac shockwave therapy and wherein said inhibitor is to be administered prior to, simultaneously with, and/or after administration of said shockwave therapy.

2. The use according to claim 1, wherein said inhibitor or composition is provided as a combined preparation with a pharmacological agent suitable for mobilising stem cells for separate, simultaneous or sequential use or administration.

3. The use according to claim 2, wherein said pharmacological agent suitable for mobilising stem cells is parathyroid hormone or a fragment thereof comprising teriparatide.

4. The use according to any one of claims 1 to 3, wherein said inhibitor or composition is to be administered prior to said shockwave therapy administration and continues throughout the course of the shockwave therapy.

5. The use according to any one of claims 2 to 4, wherein the pharmacological agent suitable for mobilising stem cells is to be administered at least 8 hours before the shockwave therapy.

6. The use according to claim 1, wherein said inhibitor is provided as a combined preparation with stem cells for separate, simultaneous or sequential use or administration.

7. The use according to claim 6, wherein said stem cells are derived from or comprise bone marrow–derived mononuclear cells.

8. The use according to claim 6 or 7, wherein the stem cells are to be administered at least 8 hours before the shockwave therapy.

9. The use according to any one of claims 1 to 8, wherein the DPP-4 inhibitor is Sitagliptin, Linagliptin, Vildagliptin, Gemigliptin, Anagliptin, Teneligliptin, Trelagliptin, Dutogliptin, Omarigliptin, Lupeol or a combination thereof.

10. The use according to any one of claims 1 to 9, wherein said heart failure is chronic heart failure or post-infarction heart failure.

11. The use according to any one of claims 1 to 10, wherein said shockwave therapy comprises administration of shockwave pulses with energy of about 0.05-0.25 mJ/mm^2.

12. The use according to any one of claims 1 to 11, wherein said shockwave therapy comprises administration of at least about 500 shockwave pulses, preferably at least about 1000 shockwave pulses.

13. The use according to any one of claims 1 to 12, wherein said shockwave therapy comprises administration of a dose of about 500-2000 shockwave pulses.

14. The use according to any one of claims 1 to 13, wherein said shockwave therapy comprises administration of shockwave pulses during the isovolumic contraction and/or isovolumic relaxation periods of the cardiac cycle.

15. The use according to any one of claims 1 to 14, wherein the focal point of the shockwave pulses is targeted to a specific region of the heart.

16. The use according to claim 15, wherein the region of the heart to be targeted is determined by echocardiography (Echo) visualisation and/or electrocardiogram (ECG) pattern recognition.

17. The use according to claim 15, wherein the region of the heart to be targeted is determined by magnetic resonance imaging.

18. The use according to any one of claims 15 to 17, wherein the specific region of the heart to be targeted comprises scar tissue.

19. The use according to any one of claims 1 to 18, wherein the dose of shockwave pulses is to be administered over more than one session.

20. Use of a kit or product containing:

(i) a DPP-4 inhibitor or composition comprising said inhibitor; and

(ii) a pharmacological agent for mobilising stem cells, such as parathyroid hormone or fragment thereof, or a pharmaceutical composition comprising said pharmacological agent and at least one pharmaceutically acceptable carrier, diluent or excipient; and optionally

(iii) an additional agent, e.g. an agent for treatment of heart failure or glucose, or a pharmaceutical composition comprising said additional agent and at least one pharmaceutically acceptable carrier, diluent or excipient,

in the manufacture of a medicament for:

(a) treating or preventing heart failure; or

(b) treating cardiac ischaemic reperfusion injury,

in a subject, wherein (i), (ii) and optionally (iii) are provided as a combined preparation for simultaneous, sequential or separate use, wherein said subject: (A) has been administered extracorporeal cardiac shockwave therapy and wherein said inhibitor and/or hormone is to be administered after administration of said shockwave therapy; or (B) is to be administered extracorporeal cardiac shockwave therapy and wherein said inhibitor and/or hormone is to be administered prior to, simultaneously with, and/or after administration of said shockwave therapy.

21. The use of claim 20, wherein said a DPP-4 inhibitor, pharmacological agent for mobilising stem cells and/or shockwave therapy is as defined in any of the aforementioned claims.