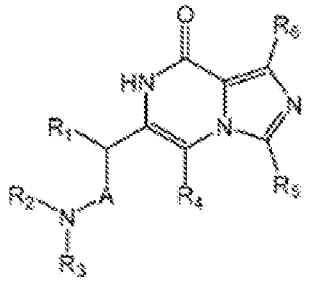
WHAT IS CLAIMED IS:

1. A method for treating cardiac failure in a patient in need thereof, the method comprising administering a pharmaceutically acceptable dose to the patient of a PDE9 inhibitor of Formula (I), or a pharmaceutically acceptable salt or solvate thereof:

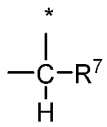


(I),

wherein R^2 is cyclized with either R^1 or R^3;

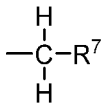
wherein R^1, R^2, and R^3 are

R^1, when cyclized with R^2 is



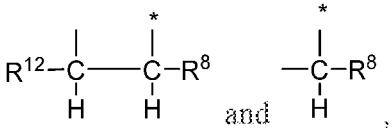
wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

wherein * denotes the cyclization point; and

R^1, when not cyclized, is selected from the group consisting of H and ,

wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

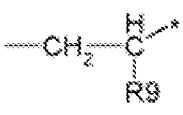
R^2 is a compound selected from the group consisting of



wherein R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$,

wherein * denotes the cyclization point; and

R^3, when cyclized with R^2 is



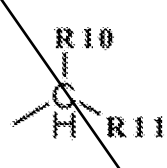
,

wherein * denotes the cyclization point, and

wherein R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6

cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy, branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is



, wherein

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C3-C9 heteroaryl;

R^4 is selected from the group consisting of hydrogen, $-CH_3$, $-C_2H_5$, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_3-C_6 heterocyclyl, substituted C3-C6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, $-C_2H_5$, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$; and

wherein the PDE9 inhibitor of Formula (I) is administered at a dose of less than or greater than 10 mg/kg per body weight.

2. The method of claim 1, wherein the PDE9 inhibitor of Formula (I) is 6-[(3S,4S)-4-methyl-1-(pyrimidin-2-ylmethyl)pyrrolidin-3-yl]-3-tetrahydropyran-4-yl-7H-imidazo[1,5-a]pyrazin-8-one (Compound **1**), or a pharmaceutically acceptable salt or solvate thereof.

3. The method of claims 1 or 2, wherein the cardiac failure is acute, chronic, or congestive cardiac failure.

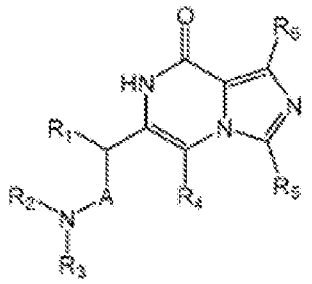
4. The method of any one of claims 1-3, wherein the cardiac failure is diabetes induced, autoimmune based, or inflammatory based cardiac failure.

5. The method of any one of claims 1-4, wherein the cardiac failure is cardia failure with a preserved ejection fraction or with a reduced ejection fraction.

6. The method of any one of claims 1-5, wherein the PDE9 inhibitor is administered to the patient at a dose of about 5 mg/kg, about 6 mg/kg, about 7 mg/kg, about 8 mg/kg, or about 9 mg/kg per body weight.

7. The method of any one of claims 1-5, wherein the PDE9 inhibitor is administered to the patient at a dose of about 5 mg/kg or about 8 mg/kg per body weight.

8. A method for treating cardiac fibrosis in a patient in need thereof, the method comprising administering to the patient a therapeutically acceptable dose of a PDE9 inhibitor of Formula (I), or a pharmaceutically acceptable salt or solvate thereof:

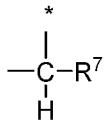


(I),

wherein R^2 is cyclized with either R^1 or R^3;

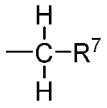
wherein R^1, R^2, and R^3 are

R^1, when cyclized with R^2 is



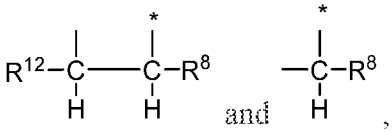
wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

wherein * denotes the cyclization point; and

R^1, when not cyclized, is selected from the group consisting of H and ,

wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

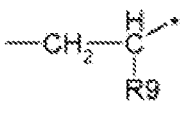
R^2 is a compound selected from the group consisting of



wherein R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$,

wherein * denotes the cyclization point; and

R^3, when cyclized with R^2 is



,

wherein * denotes the cyclization point, and

wherein R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C3-C9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy, branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is



, wherein

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl;

R^4 is selected from the group consisting of hydrogen, $-CH_3$, $-C_2H_5$, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

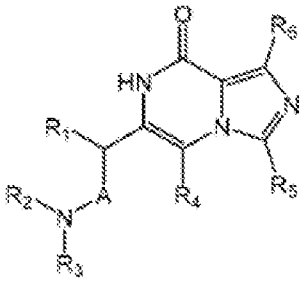
R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_3-C_6 heterocyclyl, substituted C_3-C_6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, $-C_2H_5$, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$.

9. The method of claim 8, wherein the treating of cardiac fibrosis further comprise decreasing accumulation of fibronectin and/or collagen type I and II.

10. A method of reducing myocardial inflammation in a patient in need thereof, the method comprising administering to the patient a therapeutically acceptable dose of a PDE9 inhibitor of Formula (I), or a pharmaceutically acceptable salt or solvate thereof:

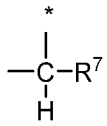


(I),

wherein R^2 is cyclized with either R^1 or R^3;

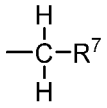
wherein R^1, R^2, and R^3 are

R^1, when cyclized with R^2 is



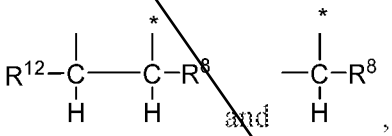
wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

wherein * denotes the cyclization point; and

R^1, when not cyclized, is selected from the group consisting of H and ,

wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

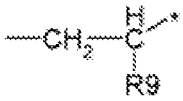
R^2 is a compound selected from the group consisting of



wherein R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$,

wherein * denotes the cyclization point; and

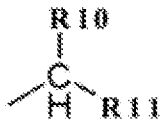
R^3, when cyclized with R^2 is



wherein * denotes the cyclization point, and

wherein R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy, branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is

, wherein

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C3-C9 heteroaryl;

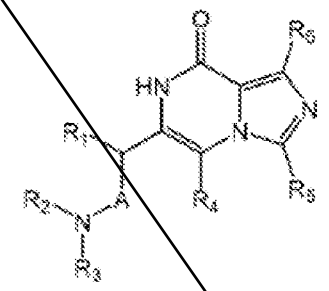
R^4 is selected from the group consisting of hydrogen, $-CH_3$, $-C_2H_5$, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_3-C_6 heterocyclyl, substituted C_3-C_6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, $-C_2H_5$, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$.

11. A method of decreasing ANP (atrial natriuretic peptide) and/or BNP (B-type natriuretic peptide) in a patient in need thereof, the method comprising administering to the patient a therapeutically acceptable dose of a PDE9 inhibitor of Formula (I), or a pharmaceutically acceptable salt or solvate thereof:

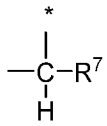


(I),

wherein R^2 is cyclized with either R^1 or R^3;

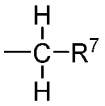
wherein R^1, R^2, and R^3 are

R^1, when cyclized with R^2 is



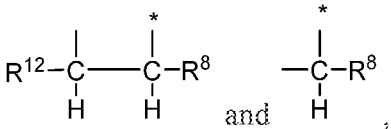
wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

wherein * denotes the cyclization point; and

R^1, when not cyclized, is selected from the group consisting of H and ,

wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

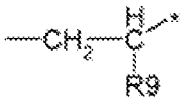
R^2 is a compound selected from the group consisting of



wherein R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$,

wherein * denotes the cyclization point; and

R^3, when cyclized with R^2 is

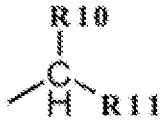


,

wherein * denotes the cyclization point, and

wherein R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy, branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is



, wherein

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl;

R^4 is selected from the group consisting of hydrogen, $-CH_3$, $-C_2H_5$, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C3-C6 heterocyclyl, substituted C3-C6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, $-C_2H_5$, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$.

12. The method of claim 11, wherein ANP is decrease by about 5%, 10%, 20%, 30%, 40%, or 50%, or more compared to pretreatment levels.

13. The method of claim 11, wherein BNP is decrease by about 5%, 10%, 20%, 30%, 40%, or 50%, or more compared to pretreatment levels.

14. The method of any one of claim 8-13, wherein the PDE9 inhibitor of Formula (I) is 6-[(3S,4S)-4-methyl-1-(pyrimidin-2-ylmethyl)pyrrolidin-3-yl]-3-tetrahydropyran-4-yl-7H-

imidazo[1,5-a]pyrazin-8-one (Compound **1**), or a pharmaceutically acceptable salt or solvate thereof.

15. The method of any one of claims 8-13, wherein the PDE9 inhibitor is administered to the patient at a dose of between about 10 mg/kg to about 500 mg/kg per body weight.

16. The method of any one of clams 8-13, wherein the PDE9 inhibitor is administered to the patient at a dose of about 50 mg/kg, about 100 mg/kg, about 150 mg/kg, about 200 mg/kg, or about 250 mg/kg per body weight.

17. The method of any one of clams 8-13, wherein the PDE9 inhibitor is administered to the patient at a dose of about 60 mg/kg or about 100 mg/kg per body weight.

18. The method of any one of clams 8-13, wherein the PDE9 inhibitor is administered to the patient at at about 100 mg to about 800 mg per dose.

19. The method of any one of claims 8-13 wherein the PDE9 inhibitor is administered to the patient at about 100 mg, 200 mg, 300 mg, 400 mg, 500 mg, 600 mg, 700 mg or 800 mg per dose.

20. The method of any one of claims 1-19, wherein the PDE9 inhibitor is administered to the patient at QD, BID, or TID.

21. The method of any one of claims 1-20, wherein the PDE9 is administered with at least one additional therapeutic agent.

22. The method of claim 21, wherein the additional therapeutic agent is selected from an angiotensin transferase inhibitor (ACEI), a β-receptor blocker, a mineralocorticoid/aldosterone receptor antagonist (MRA), a diuretic, an angiotensin receptor neprilysin inhibitor (ARNI), a neprilysin inhibitor (NEPI), an angiotensin II receptor blocker (ARB), a vasodilator, and a hydralazine (HYD) or isosorbide dinitrate (SND), or a combination thereof.

23. The method of claim 21 or 22, wherein the addtional therapeutic agent is selected from hydroxy urea (HU), captopril, enalapril, lisinopril, trandolapril, bisoprolol, carvedilol, metoprolol succinate, nebivolol, eplerenone, spirolactone, sacubitril, ivabradine, candesartan, valsartan, digoxin, deslanoside, dopamine, dobutamine, dopexamine, milrinone, enoximone, phosphocreatine, cyclohexylethylamine, nitroglycerin, isosorbide dinitrate, sodium nitroprusside, prazosin, ivabradine, candesartan, valsartan, furosemide, bumetanide, torasemide, bendrofluazide, hydrochlorothiazide, metolazone, indapamide, amiloride, and triamterene.

24. The method of claims 22 or 23, wherein the addtional therapeutic agent is angiotensin II.

25. The method of any one of claims 21-23, wherein the PDE9 inhibitor and the a least one additional therapeutic agent are administed concurrently or sequentially.

26. The method of any one of claims 1-25, wherein the PDE9 inhibitor is administerd orally.

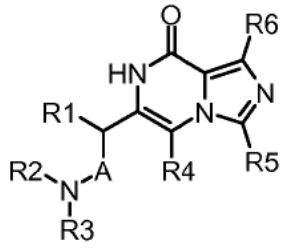
27. The method of any one of claims 1-26, whrein the PDE9 inhibitor is administerd daily.

28. The method of any one of claims 1-27, wherein the PDE9 inhibitor is administerd for between 1 to 7 days.

29. The method of any one of claims 1-27, wherein the PDE9 inhibitor is administed for at least 7 days.

CLAIMS

1. Use of a PDE9 inhibitor in the manufacture of a medicament for treating cardiac failure in a patient in need thereof, wherein the PDE9 inhibitor is of Formula (I):



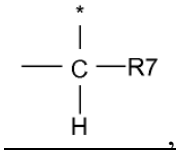
(I),

or a pharmaceutically acceptable salt or solvate thereof, wherein

R^2 is cyclized with either R^1 or R^3;

wherein R^1, R^2, and R^3 are:

R^1, when cyclized with R^2, is

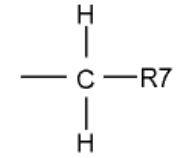


,

wherein:

R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7; wherein * denotes the cyclization point; and

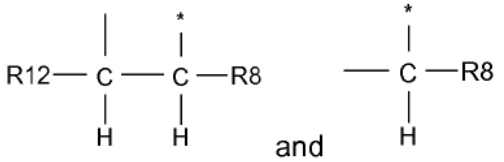
R^1, when not cyclized, is selected from the group consisting of



H and ,

wherein R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

R^2 is a compound selected from the group consisting of



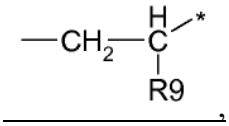
and

,

wherein:

R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$, wherein * denotes the cyclization point; and

R^3, when cyclized with R^2, is



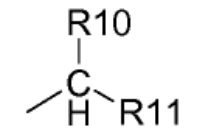
,

wherein:

* denotes the cyclization point, and

R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy, branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is



,

wherein:

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl;

R^4 is selected from the group consisting of hydrogen, $-CH_3$, -C2H5, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_3-C_6 heterocyclyl, substituted C_3-C_6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, $-C_2H_5$, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$; and

wherein the PDE9 inhibitor of Formula (I) is for administration at a dose of less than or greater than 10 mg/kg per body weight.

2. The use of claim 1, wherein the PDE9 inhibitor of Formula (I) is 6-[(3S,4S)-4-methyl-1-(pyrimidin-2-ylmethyl)pyrrolidin-3-yl]-3-tetrahydropyran-4-yl-7H-imidazo[1,5-a]pyrazin-8-one (Compound **1**), or a pharmaceutically acceptable salt or solvate thereof.

3. The use of claims 1 or 2, wherein the cardiac failure is acute, chronic, or congestive cardiac failure.

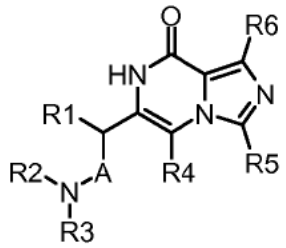
4. The use of any one of claims 1-3, wherein the cardiac failure is diabetes induced, autoimmune based, or inflammatory based cardiac failure.

5. The use of any one of claims 1-4, wherein the cardiac failure is cardiac failure with a preserved ejection fraction or with a reduced ejection fraction.

6. The use of any one of claims 1-5, wherein the PDE9 inhibitor is for administration at a dose of about 5 mg/kg, about 6 mg/kg, about 7 mg/kg, about 8 mg/kg, or about 9 mg/kg per body weight.

7. The use of any one of claims 1-5, wherein the PDE9 inhibitor for administration at a dose of about 5 mg/kg or about 8 mg/kg per body weight.

8. Use of a PDE9 inhibitor in the manufacture of a medicament for treating cardiac fibrosis in a patient in need thereof, wherein the PDE9 inhibitor is of Formula (I)



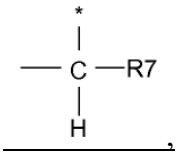
(I),

or a pharmaceutically acceptable salt or solvate thereof, wherein

R^2 is cyclized with either R^1 or R^3;

R', R^2, and R^3 are:

R^1, when cyclized with R^2 is

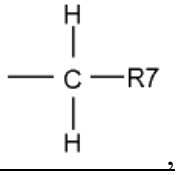


,

wherein:

R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7; wherein * denotes the cyclization point; and

R^1, when not cyclized, is selected from the group consisting of

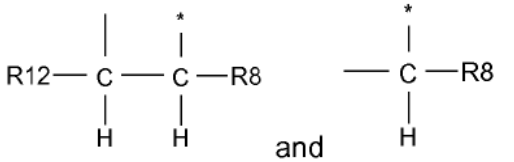
H and 

,

wherein:

R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

R^2 is a compound selected from the group consisting of

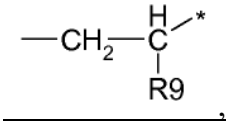


,

wherein:

R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$, wherein * denotes the cyclization point; and

R^3, when cyclized with R^2, is



,

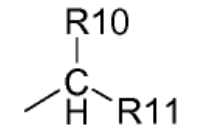
wherein:

* denotes the cyclization point, and

R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C3-C9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy,

branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is



,

wherein:

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl;

R^4 is selected from the group consisting of hydrogen, $-CH_3$, $-C_2H_5$, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

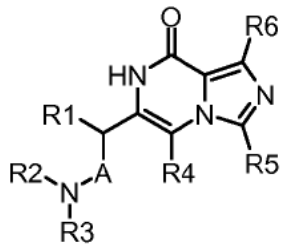
R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_3-C_6 heterocyclyl, substituted C_3-C_6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, -C2H5, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$.

9. The use of claim 8, wherein further comprising decreasing accumulation of fibronectin and/or collagen type I and II.

10. Use of a PDE9 inhibitor in the manufacture of a medicament for reducing myocardial inflammation in a patient in need thereof, wherein the PDE9 inhibitor is of Formula (I):



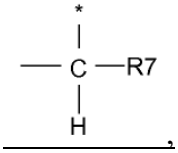
(I),

or a pharmaceutically acceptable salt or solvate thereof, wherein

R^2 is cyclized with either R^1 or R^3;

R', R^2, and R^3 are:

R^1, when cyclized with R^2, is

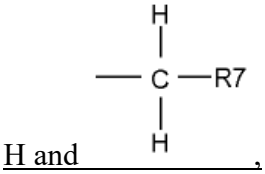


,

wherein:

R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7; wherein * denotes the cyclization point; and

R^1, when not cyclized, is selected from the group consisting of

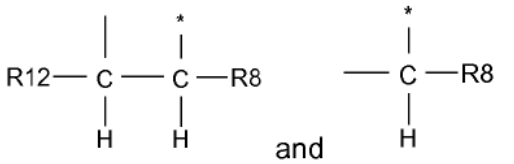


H and ,

wherein:

R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

R^2 is a compound selected from the group consisting of

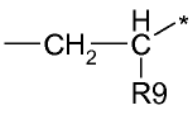


,

wherein:

R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$, wherein * denotes the cyclization point; and

R^3, when cyclized with R^2, is



,

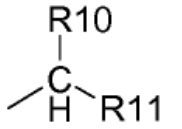
wherein:

* denotes the cyclization point, and

R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl,

C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy, branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is



,

wherein:

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl;

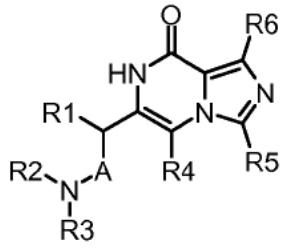
R^4 is selected from the group consisting of hydrogen, $-CH_3$, $-C_2H_5$, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_3-C_6 heterocyclyl, substituted C_3-C_6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, $-C_2H_5$, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$.

11. Use of a therapeutically acceptable dose of a PDE9 inhibitor in the manufacture of a medicament for decreasing ANP (atrial natriuretic peptide) and/or BNP (B-type natriuretic peptide) in a patient in need thereof, wherein the PDE9 inhibitor is of Formula (I):



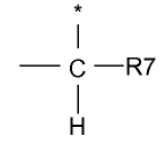
(I) ,

or a pharmaceutically acceptable salt or solvate thereof, wherein

R^2 is cyclized with either R^1 or R^3;

R^1, R^2, and R^3 are:

R^1, when cyclized with R^2, is

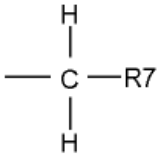


,

wherein:

R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7; wherein * denotes the cyclization point; and

R^1, when not cyclized, is selected from the group consisting of

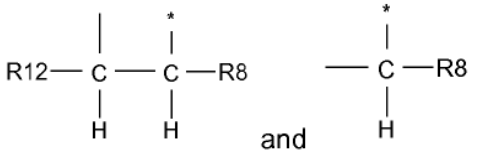


H and ,

wherein:

R^7 is selected from the group consisting of H, $-CH_3$, $-C_2H_5$, and C_3H_7;

R^2 is a compound selected from the group consisting of

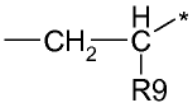


and ,

wherein:

R^8 and R^{12} independently are selected from the group consisting of H, $-CH_3$, $-C_2H_6$, and $-C_3H_7$, wherein * denotes the cyclization point; and

R^3, when cyclized with R^2, is



,

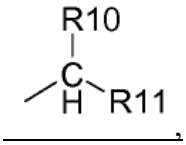
wherein:

* denotes the cyclization point, and

R^9 is selected from the group consisting of H, C_1-C_6 alkyl, substituted C_1-C_6 alkyl, branched C_3-C_6 alkyl, C_3-C_6 cycloalkyl, substituted C_3-C_6 cycloalkyl, C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C_1-C_6 alkoxy, substituted C_1-C_6 alkoxy,

branched C_3-C_6 alkoxy, C_3-C_6 cycloalkoxy, substituted C_3-C_6 cycloalkoxy, C_6-C_{10} aryloxy, substituted C_6-C_{10} aryloxy, C_3-C_9 heteroaryloxy, substituted C_3-C_9 heteroaryloxy; and

R^3, when not cyclized, is



,

wherein:

R^{10} is selected from the group consisting of H, $-CH_3$, and $-C_2H_5$; and

R^{11} is selected from the group consisting of C_6-C_{19} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl;

R^4 is selected from the group consisting of hydrogen, $-CH_3$, $-C_2H_5$, $-C_3H_7$, $-CF_3$, -CN, F and Cl;

R^5 is selected from the group consisting of C_6-C_{10} aryl, substituted C_6-C_{10} aryl, C_3-C_9 heteroaryl, substituted C_3-C_9 heteroaryl, C3-C6 heterocyclyl, substituted C3-C6 heterocyclyl, C_3-C_6 cycloalkyl, and substituted C_3-C_6 cycloalkyl;

R^6 is selected from the group consisting of hydrogen, F, Cl, CN, $-CH_3$, $-C_2H_5$, $-C_3H_7$, and $-CF_3$; and

A is absent or $-CH_2$.

12. The use of claim 11, wherein ANP is decrease by about 5%, about 10%, about 20%, about 30%, about 40%, or about 50%, or more compared to pretreatment levels.

13. The use of claim 11, wherein BNP is decrease by about 5%, about 10%, about 20%, about 30%, about 40%, or about 50%, or more compared to pretreatment levels.

14. The use of any one of claim 8-13, wherein the PDE9 inhibitor of Formula (I) is 6-[(3S,4S)-4-methyl-1-(pyrimidin-2-ylmethyl)pyrrolidin-3-yl]-3-tetrahydropyran-4-yl-7H-imidazo[1,5-a]pyrazin-8-one (Compound **1**), or a pharmaceutically acceptable salt or solvate thereof.

15. The use of any one of claims 8-14, wherein the PDE9 inhibitor is for administration at a dose of between about 10 mg/kg to about 500 mg/kg per body weight.

16. The use of any one of clams 8-14, wherein the PDE9 inhibitor is for administration at a dose of about 50 mg/kg, about 100 mg/kg, about 150 mg/kg, about 200 mg/kg, or about 250 mg/kg per body weight.

17. The use of any one of clams 8-14, wherein the PDE9 inhibitor is for administration at a dose of about 60 mg/kg or about 100 mg/kg per body weight.

18. The use of any one of clams 8-17, wherein the PDE9 inhibitor is for administration at about 100 mg to about 800 mg per dose.

19. The use of any one of claims 8-17 wherein the PDE9 inhibitor is for administration at about 100 mg, 200 mg, 300 mg, 400 mg, 500 mg, 600 mg, 700 mg or 800 mg per dose.

20. The use of any one of claims 1-19, wherein the PDE9 inhibitor is for administration at QD, BID, or TID.

21. The use of any one of claims 1-20, wherein the PDE9 inhibitor is for administration with at least one additional therapeutic agent.

22. The use of claim 21, wherein the additional therapeutic agent is selected from an angiotensin transferase inhibitor (ACEI), a 0-receptor blocker, a mineralocorticoid/aldosterone receptor antagonist (MRA), a diuretic, an angiotensin receptor neprilysin inhibitor (ARNI), a neprilysin inhibitor (NEPI), an angiotensin II receptor blocker (ARB), a vasodilator, and a hydralazine (HYD), and isosorbide dinitrate (SND), or a combination thereof.

23. The use of claim 21 or 22, wherein the addtional therapeutic agent is selected from hydroxy urea (HU), captopril, enalapril, lisinopril, trandolapril, bisoprolol, carvedilol, metoprolol succinate, nebivolol, eplerenone, spirolactone, sacubitril, ivabradine, candesartan, valsartan, digoxin, deslanoside, dopamine, dobutamine, dopexamine, milrinone, enoximone, phosphocreatine, cyclohexylethylamine, nitroglycerin, isosorbide dinitrate, sodium nitroprusside,

prazosin, ivabradine, candesartan, valsartan, furosemide, bumetanide, torasemide, bendrofluazide, hydrochlorothiazide, metolazone, indapamide, amiloride, and triamterene.

24. The use of claims 21 or 22, wherein the additional therapeutic agent is angiotensin II.

25. The use of any one of claims 21-23, wherein the PDE9 inhibitor and the least one additional therapeutic agent are for concurrent or sequential administration.

26. The use of any one of claims 1-25, wherein the PDE9 inhibitor is for oral administration.

27. The use of any one of claims 1-26, wherein the PDE9 inhibitor is for daily administration.

28. The use of any one of claims 1-27, wherein the PDE9 inhibitor is for administration for between 1 to 7 days.

29. The use of any one of claims 1-27, wherein the PDE9 inhibitor is for administration for at least 7 days.