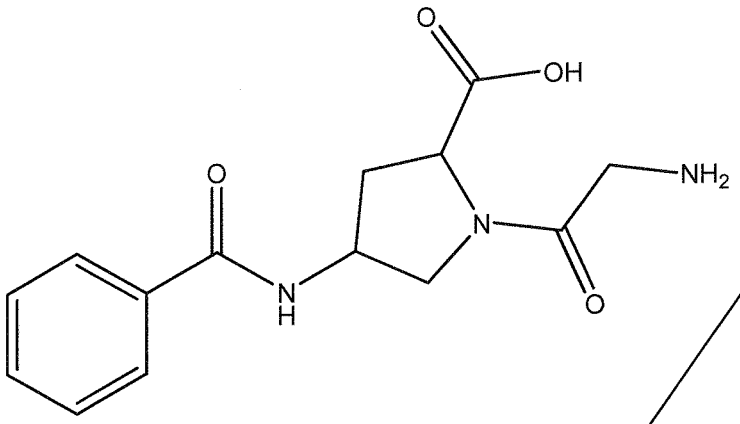
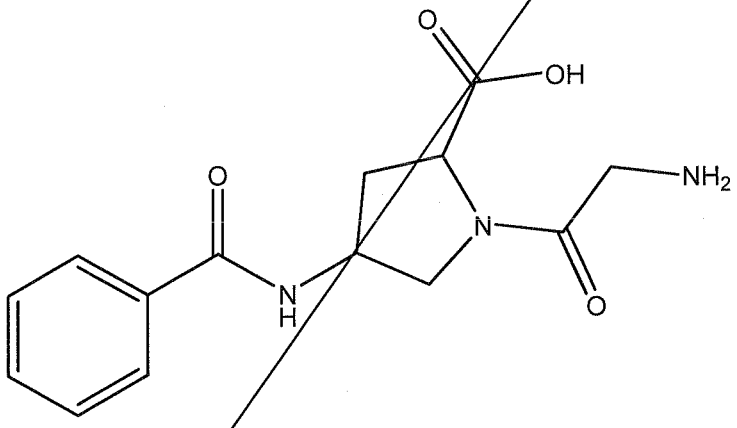
Claims

1. A compound that is



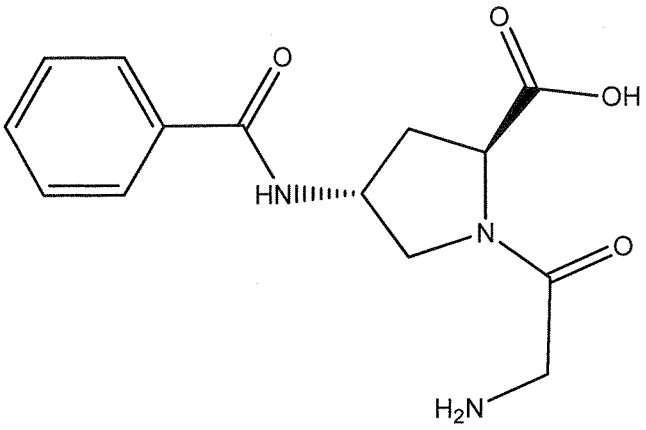
or a pharmaceutically acceptable salt thereof.

2. A pharmaceutical composition comprising



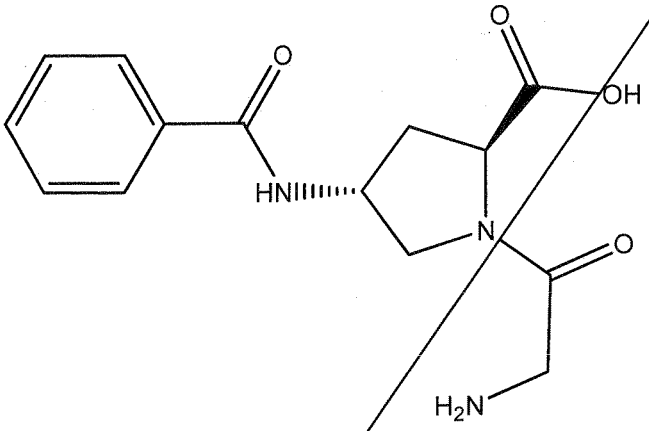
or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

3. A compound that is




or a pharmaceutically acceptable salt thereof.

4. A pharmaceutical composition comprising




or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

5. Use of a compound according to claim 1 or 3, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating or preventing a pathological condition.

6. The use according to claim 5, wherein the pathological condition is selected from cardiovascular disease; osteoporosis; inflammation of airway epithelium; disorders of alveolar tissue; bladder incontinence; impaired hearing; endothelial lesions; Type I or Type II diabetes; diabetic retinopathy; diabetic neuropathy; atherosclerosis; CNS related conditions; seizures; ischemia; dental

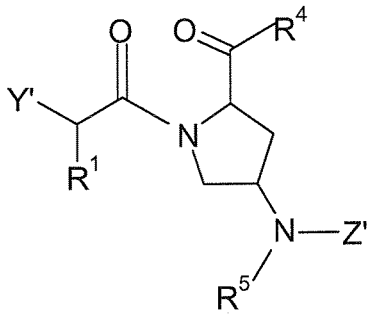
tissue disorders; kidney diseases; anaemia; leukopenia; thrombocytopenia; pancytopenia; superficial wounds; deep wounds resulting from trauma; bone fractures; erectile dysfunction; urinary bladder incontinence; neuropathic pain; subchronic and chronic inflammation; cancer; failure of bone marrow; stem cell transplantation; conditions arising during transplantation of cells and tissues; conditions arising during medical procedures; conditions caused by an excess of reactive oxygen species, free radicals or nitric oxide; diseases or disorders of pregnancy; female infertility; and stroke.

7. The use according to claim 5, wherein the pathological condition is cardiovascular disease.

8. The use according to claim 7, wherein the cardiovascular disease is selected from atrial fibrillation, atrial flutter, ventricular tachycardia and ventricular fibrillation.

**Claims:**

1. A compound represented by Formula III:



or a pharmaceutically acceptable salt or hydrate thereof,
wherein:

$R^1$ is hydrogen;

Y' is $NR^2R^3$, wherein $R^2$ is hydrogen, and $R^3$ is selected from hydrogen, $C_{1-10}$ alkyl, $C(O)R^6$ and $C(O)OR^6$;

$R^4$ is OH or $NH_2$;

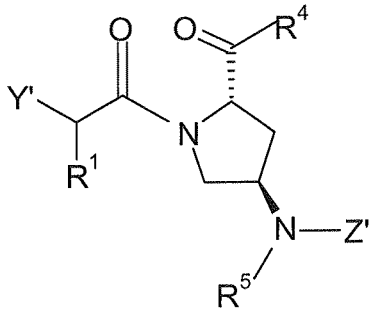
$R^5$ and $R^6$ are independently selected from hydrogen and $C_{1-10}$ alkyl; and

Z' is benzoyl, optionally substituted with 1 to 5 Q groups, wherein each Q group is independently selected from F, Cl, Br, I, $C_{1-10}$ alkyl, $CF_3$, $OCF_3$, $NO_2$, O-$C_{1-10}$ alkyl, OH, $NH_2$, $NH(C_{1-10}$ alkyl), $N(C_{1-10}$ alkyl)$_2$, and NHC(O) $C_{1-10}$ alkyl.

2. The compound according to claim 1, wherein $R^3$ is hydrogen.

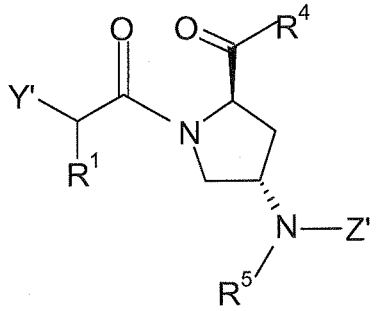
3. The compound according to claim 1, wherein $R^3$ is $C(O)R^6$, and $R^6$ is hydrogen or $C_{1-10}$ alkyl.

4. The compound according to any one of claims 1 to 3 having the following structure:



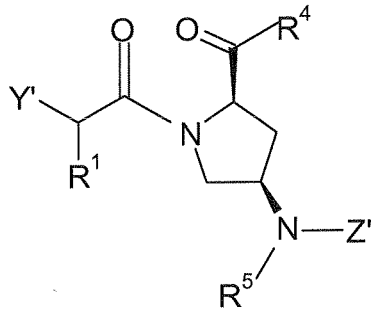
or a pharmaceutically acceptable salt or hydrate thereof.

5. The compound according to any one of claims 1 to 3 having the following structure:



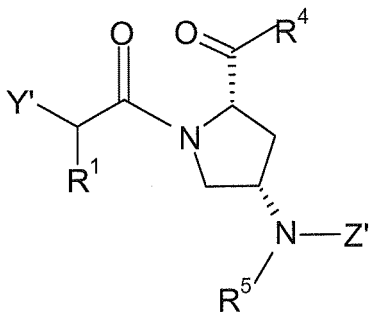
or a pharmaceutically acceptable salt or hydrate thereof.

6. The compound according to any one of claims 1 to 3 having the following structure:



or a pharmaceutically acceptable salt or hydrate thereof.

7. The compound according to any one of claims 1 to 3 having the following structure:



or a pharmaceutically acceptable salt or hydrate thereof.

8. The compound according to claim 1 which is:
1-(2-amino-acetyl)-4-(4-nitro-benzoylamino)-pyrrolidine-2-carboxylic acid;
1-(2-amino-acetyl)-4-benzoylamino-pyrrolidine-2-carboxylic acid;
1-(2-amino-acetyl)-4-(4-methyl-benzoylamino)-pyrrolidine-2-carboxylic acid;
1-(2-amino-acetyl)-4-(4-methoxy-benzoylamino)-pyrrolidine-2-carboxylic acid; or
1-(2-amino-acetyl)-4-(4-hydroxy-benzoylamino)-pyrrolidine-2-carboxylic acid;

or a pharmaceutically acceptable salt or hydrate thereof.

9. The compound according to claim 1 or 8 which is:
(2S, 4R) 1-(2-Amino-acetyl)-4-(4-nitro-benzoylamino)-pyrrolidine-2-carboxylic acid;
(2S, 4R) 1-(2-Amino-acetyl)-4-benzoylamino-pyrrolidine-2-carboxylic acid;
(2S, 4R) 1-(2-Amino-acetyl)-4-(4-methyl-benzoylamino)-pyrrolidine-2-carboxylic acid;
(2S, 4R) 1-(2-Amino-acetyl)-4-(4-methoxy-benzoylamino)-pyrrolidine-2-carboxylic acid,
or
(2S, 4R) 1-(2-Amino-acetyl)-4-(4-hydroxy-benzoylamino)-pyrrolidine-2-carboxylic acid;

or a pharmaceutically acceptable salt or hydrate thereof.

10. A compound which is:
1-(2-aminoacetyl)-4-benzamido-N-methylpyrrolidine-2-carboxamide;
1-(2-aminoacetyl)-4-benzamido-N-ethylpyrrolidine-2-carboxamide;
1-(2-aminoacetyl)-4-benzamido-N-isopropylpyrrolidine-2-carboxamide;
1-(2-aminoacetyl)-4-benzamido-N-cyclopropylpyrrolidine-2-carboxamide;
1-(2-aminoacetyl)-4-benzamido-N-(pentan-3-yl)pyrrolidine-2-carboxamide;
1-(2-aminoacetyl)-4-benzamido-N-cyclopentylpyrrolidine-2-carboxamide;
1-(2-aminoacetyl)-4-benzamido-N-isobutylpyrrolidine-2-carboxamide;
1-(2-aminoacetyl)-4-benzamido-N-cyclobutylpyrrolidine-2-carboxamide;

1-(2-aminoacetyl)-4-benzamido-N-tert-butylpyrrolidine-2-carboxamide; or
4-benzamido-1-(2-(2,2,2-trifluoroacetamido)acetyl)pyrrolidine-2-carboxylic acid;

or a pharmaceutically acceptable salt or hydrate thereof.

11. The compound according to claim 10 which is:
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-methylpyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-ethylpyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-isopropylpyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-cyclopropylpyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-(pentan-3-yl)pyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-cyclopentylpyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-isobutylpyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-cyclobutylpyrrolidine-2-carboxamide;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamido-N-tert-butylpyrrolidine-2-carboxamide; or
(2S, 4R) 4-benzamido-1-(2-(2,2,2-trifluoroacetamido)acetyl)pyrrolidine-2-carboxylic acid;

or a pharmaceutically acceptable salt or hydrate thereof.

12. The compound of claim 1 which is:
1-(2-acetamidoacetyl)-4-benzamidopyrrolidine-2-carboxylic acid;
4-benzamido-1-(2-(methylamino)acetyl)-pyrrolidine-2-carboxylic acid;
4-benzamido-1-(2-(tert-butoxycarbonylamino) acetyl)pyrrolidine-2-carboxylic acid;
4-benzamido-1-(2-formamidoacetyl)pyrrolidine-2-carboxylic acid;
1-(2-aminoacetyl)-4-benzamidopyrrolidine-2-carboxamide; or
4-benzamido-1-(2-(tert-butoxycarbonylamino)acetyl)pyrrolidine-2-carboxamide;

or a pharmaceutically acceptable salt or hydrate thereof.

13. The compound according to claim 1 or 12 which is:
(2S, 4R) 1-(2-acetamidoacetyl)-4-benzamidopyrrolidine-2-carboxylic acid;
(2S, 4R) 4-benzamido-1-(2-(methylamino)acetyl)-pyrrolidine-2-carboxylic acid;
(2S, 4R) 4-benzamido-1-(2-(tert-butoxycarbonylamino)acetyl)pyrrolidine-2-carboxylic acid;
(2S, 4R) 4-benzamido-1-(2-formamidoacetyl)pyrrolidine-2-carboxylic acid;
(2S, 4R) 1-(2-aminoacetyl)-4-benzamidopyrrolidine-2-carboxamide; or

(2S, 4R) 4-benzamido-1-(2-(tert-butoxycarbonylamino)acetyl)pyrrolidine-2-carboxamide;

or a pharmaceutically acceptable salt or hydrate thereof.

14. The compound of claim 1 which is 1-(2-amino-acetyl)-4-benzoylamino-pyrrolidine-2-carboxylic acid, or a pharmaceutically acceptable salt or hydrate thereof.

15. The compound of claim 14 which is (2S, 4R)1-(2-amino-acetyl)-4-benzoylamino-pyrrolidine-2-carboxylic acid, or a pharmaceutically acceptable salt or hydrate thereof.

16. A pharmaceutical composition comprising a compound according to any one of claims 1 to 15 or a pharmaceutically acceptable salt or hydrate thereof, and a pharmaceutically acceptable carrier.

17. A compound according to any one of claims 1 to 15 for use in therapy.

18. A compound according to any one of claims 1 to 15 for use in a method of preventing or treating a pathological condition, wherein the pathological condition is ischemia.

19. A compound according to any one of claims 1 to 15 for use in a method of preventing or treating ischemic injury in one or more organs of a mammal.

20. A compound according to any one of claims 1 to 15 for use in a method of preventing or treating a pathological condition, wherein the pathological condition is cardiovascular disease.

21. A compound according to any one of claims 1 to 15 for use in a method of preventing or treating a pathological condition according to claim 20, wherein the cardiovascular disease is atrial fibrillation, atrial flutter, ventricular tachycardia or ventricular fibrillation.

22. The compound according to any one of claims 1 to 15 for use in a method of preventing or treating a pathological condition of any one of claims 18 to 21, wherein the compound is formulated for parenteral or oral administration.

23. Use of a compound according to any one of claims 1 to 15 in the preparation of a medicament for the prevention or treatment of a pathological condition, wherein the pathological condition is ischemia.

24. Use of a compound according to any one of claims 1 to 15 in the preparation of a medicament for the prevention or treatment of ischemic injury in one or more organs of a mammal.

25. Use of a compound according to any one of claims 1 to 15 in the preparation of a medicament for the prevention or treatment of a pathological condition, wherein the pathological condition is cardiovascular disease.

26. The use according to claim 25, wherein the cardiovascular disease is atrial fibrillation, atrial flutter, ventricular tachycardia or ventricular fibrillation.

27. The use according to any one of claims 23 to 26, wherein the compound is formulated for parenteral or oral administration.