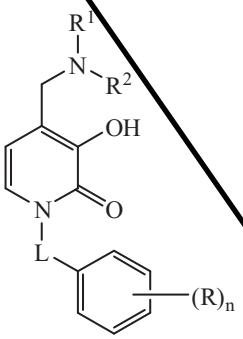
CLAIMS

1. The use of a compound for preparing a medicament for increasing HIF-1 stabilization in a cell, the compound having the formula:

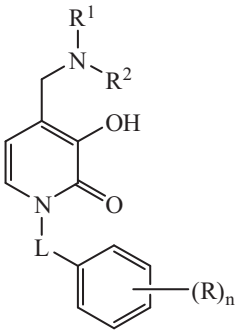


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

2. The use of a compound for preparing a medicament for increasing the cellular immune response in a subject, the compound having the formula:

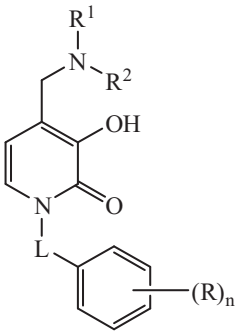


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

3. The use of a compound for preparing a medicament for treating cancer in a subject, the compound having the formula:



wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:
i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

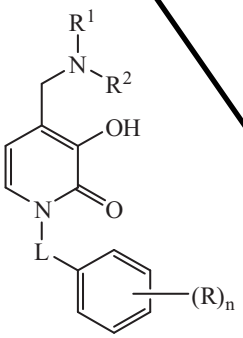
a pharmaceutically acceptable salt thereof.

4. The use according to Claim 3, wherein the cancer is chosen from Acute Lymphoblastic; Acute Myeloid Leukemia; Adrenocortical Carcinoma; Adrenocortical Carcinoma, Childhood; Appendix Cancer; Basal Cell Carcinoma; Bile Duct Cancer, Extrahepatic; Bladder Cancer; Bone Cancer; Osteosarcoma and Malignant Fibrous Histiocytoma; Brain Stem Glioma, Childhood; Brain Tumor, Adult; Brain Tumor, Brain Stem Glioma, Childhood; Brain Tumor, Central Nervous System Atypical Teratoid/Rhabdoid Tumor, Childhood; Central Nervous System Embryonal Tumors; Cerebellar

Astrocytoma; Cerebral Astrocytoma/Malignant Glioma; Craniopharyngioma; Ependymoblastoma; Ependymoma; Medulloblastoma; Medulloepithelioma; Pineal Parenchymal Tumors of Intermediate Differentiation; Supratentorial Primitive Neuroectodermal Tumors and Pineoblastoma; Visual Pathway and Hypothalamic Glioma; Brain and Spinal Cord Tumors; Breast Cancer; Bronchial Tumors; Burkitt Lymphoma; Carcinoid Tumor; Carcinoid Tumor, Gastrointestinal; Central Nervous System Atypical Teratoid/Rhabdoid Tumor; Central Nervous System Embryonal Tumors; Central Nervous System Lymphoma; Cerebellar Astrocytoma; Cerebral Astrocytoma/Malignant Glioma, Childhood; Cervical Cancer; Chordoma, Childhood; Chronic Lymphocytic Leukemia; Chronic Myelogenous Leukemia; Chronic Myeloproliferative Disorders; Colon Cancer; Colorectal Cancer; Craniopharyngioma; Cutaneous T-Cell Lymphoma; Esophageal Cancer; Ewing Family of Tumors; Extragonadal Germ Cell Tumor; Extrahepatic Bile Duct Cancer; Eye Cancer, Intraocular Melanoma; Eye Cancer, Retinoblastoma; Gallbladder Cancer; Gastric (Stomach) Cancer; Gastrointestinal Carcinoid Tumor; Gastrointestinal Stromal Tumor (GIST); Germ Cell Tumor, Extracranial; Germ Cell Tumor, Extragonadal; Germ Cell Tumor, Ovarian; Gestational Trophoblastic Tumor; Glioma; Glioma, Childhood Brain Stem; Glioma, Childhood Cerebral Astrocytoma; Glioma, Childhood Visual Pathway and Hypothalamic; Hairy Cell Leukemia; Head and Neck Cancer; ;Hepatocellular (Liver) Cancer; Histiocytosis, Langerhans Cell; Hodgkin Lymphoma; Hypopharyngeal Cancer; Hypothalamic and Visual Pathway Glioma; Intraocular Melanoma; Islet Cell Tumors; Kidney (Renal Cell) Cancer; Langerhans Cell Histiocytosis; Laryngeal Cancer; Leukemia, Acute Lymphoblastic; Leukemia, Acute Myeloid; Leukemia, Chronic Lymphocytic; Leukemia, Chronic Myelogenous; Leukemia, Hairy Cell; Lip and Oral Cavity Cancer; Liver Cancer; Lung Cancer, Non-Small Cell; Lung Cancer, Small Cell; Lymphoma, AIDS-Related; Lymphoma, Burkitt; Lymphoma, Cutaneous T-Cell; Lymphoma, Hodgkin; Lymphoma, Non-Hodgkin; Lymphoma, Primary Central Nervous System; Macroglobulinemia, Waldenström; Malignant Fibrous Histiocytoma of Bone and Osteosarcoma; Medulloblastoma; Melanoma; Melanoma, Intraocular (Eye); Merkel Cell Carcinoma; Mesothelioma; Metastatic Squamous Neck Cancer with Occult Primary; Mouth Cancer; Multiple Endocrine Neoplasia Syndrome, (Childhood); Multiple Myeloma/Plasma Cell Neoplasm; Mycosis Fungoides; Myelodysplastic Syndromes; Myelodysplastic/Myelo-proliferative Diseases; Myelogenous Leukemia, Chronic; Myeloid Leukemia, Adult Acute; Myeloid Leukemia, Childhood Acute; Myeloma, Multiple; Myeloproliferative Disorders, Chronic; Nasal Cavity and Paranasal Sinus Cancer; Nasopharyngeal Cancer; Neuroblastoma; Non-Small Cell Lung Cancer; Oral Cancer; Oral Cavity Cancer; Oropharyngeal Cancer; Osteosarcoma and Malignant Fibrous Histiocytoma of Bone; Ovarian Cancer; Ovarian Epithelial Cancer; Ovarian Germ Cell Tumor; Ovarian Low Malignant Potential Tumor; Pancreatic Cancer; Pancreatic Cancer, Islet Cell Tumors; Papillomatosis; Parathyroid Cancer; Penile Cancer; Pharyngeal Cancer; Pheochromocytoma; Pineal Parenchymal Tumors of Intermediate Differentiation; Pineoblastoma and Supratentorial Primitive Neuroectodermal Tumors; Pituitary Tumor; Plasma Cell Neoplasm/Multiple Myeloma; Pleuropulmonary Blastoma; Primary Central Nervous System Lymphoma; Prostate Cancer; Rectal Cancer; Renal Cell (Kidney) Cancer; Renal Pelvis and Ureter, Transitional Cell Cancer; Respiratory Tract Carcinoma Involving the *NUT* Gene on Chromosome 15; Retinoblastoma; Rhabdomyosarcoma; Salivary Gland Cancer; Sarcoma, Ewing Family of Tumors; Sarcoma, Kaposi; Sarcoma, Soft Tissue; Sarcoma, Uterine; Sézary Syndrome; Skin Cancer (Nonmelanoma); Skin Cancer (Melanoma); Skin Carcinoma, Merkel Cell; Small Cell Lung Cancer; Small Intestine Cancer; Soft Tissue Sarcoma; Squamous Cell Carcinoma, Squamous Neck Cancer with Occult Primary, Metastatic; Stomach (Gastric) Cancer; Supratentorial Primitive

Neuroectodermal Tumors; T-Cell Lymphoma, Cutaneous; Testicular Cancer; Throat Cancer; Thymoma and Thymic Carcinoma; Thyroid Cancer; Transitional Cell Cancer of the Renal Pelvis and Ureter; Trophoblastic Tumor, Gestational; Urethral Cancer; Uterine Cancer, Endometrial; Uterine Sarcoma; Vaginal Cancer; Vulvar Cancer; Waldenström Macroglobulinemia; and Wilms Tumor.

5. The use of a compound for preparing a medicament for prophylactically treating infection in a subject against an infection, the compound having the formula:

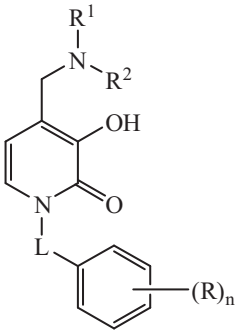


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

6. The use of a compound for preparing a medicament for treating an infection in a subject caused by a microorganism, the compound having the formula:



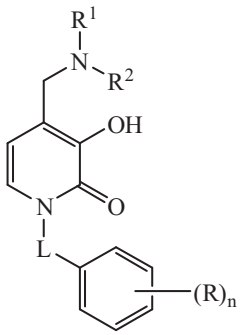
wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;

the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

7. The use of a compound for preparing a medicament for treating infection in a subject wherein the infection is caused by a pathogen chosen from bacteria, viruses, yeasts, fungi, or parasites, the compound having the formula:

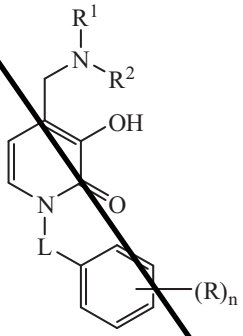


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

8. The use of a compound for preparing a medicament for enhancing the effectiveness of a vaccine, the compound having the formula:



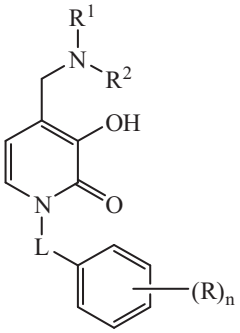
wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

9. The use according to Claim 8, wherein the vaccine is an inoculation against hepatitis, influenza, measles, rubella, tetanus, polio or rabies.

10. The use of a compound for preparing a medicament for inhibiting hypoxia-inducible factor-1 alpha (HIF-1α) 4-prolyl hydroxylase activity in a subject, the compound having the formula:



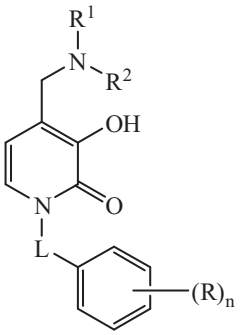
wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;

iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

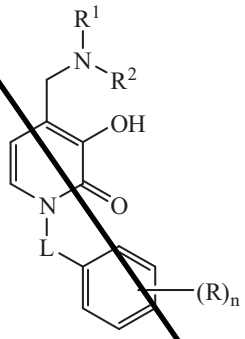
11. The use of a compound for preparing a medicament for treating anemia in a subject, the compound having the formula:



wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:
i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

12. The use of a compound for preparing a medicament for increasing angiogenesis in a subject, the compound having the formula:

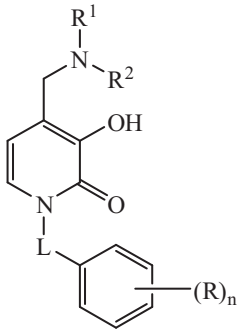


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

13. The use of a compound for preparing a medicament for treating sepsis in a subject, the compound having the formula:



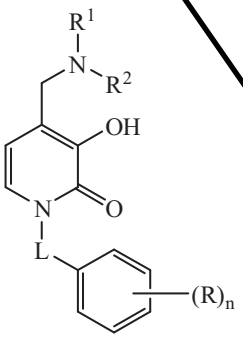
wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;

vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

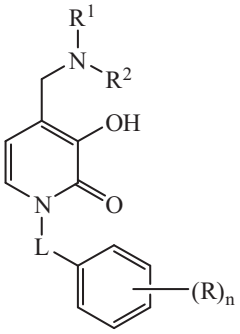
14. The use of a compound for preparing a medicament for treating peripheral vascular disease in a subject, the compound having the formula:



wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:
i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

15. The use of a compound for preparing a medicament for treating a wound in a subject, the compound having the formula:

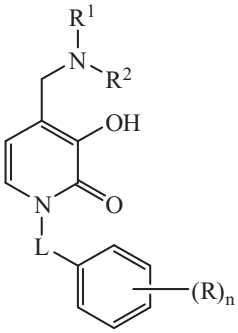


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

16. The use of a compound for preparing a medicament for treating diabetes in a subject, the compound having the formula:

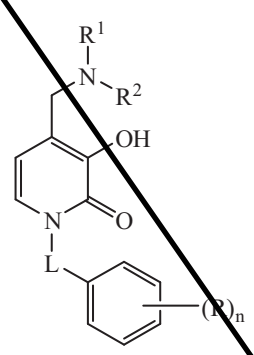


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

17. The use of a compound for preparing a medicament for treating hypertension in a subject, the compound having the formula:

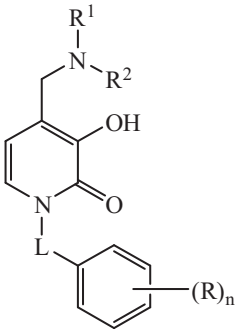


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

18. The use of a Hypoxia Inducible Factor 1-alpha (HIF-1α) prolyl hydroxylase inhibitor for making a medicament for treating a disease or a medical condition, the HIF-1α prolyl hydroxylase inhibitor having the formula:



wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;

ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof.

19. The use according to Claim 18, wherein the medicament is useful for treating a disorder chosen from diabetic retinopathy, macular degeneration, cancer, sickle cell anemia, sarcoid, syphilis, pseudoxanthoma elasticum, Paget's disease, vein occlusion, artery occlusion, carotid obstructive disease, chronic uveitis/vitritis, mycobacterial infections, Lyme's disease, systemic lupus erythematosis, retinopathy of prematurity, Eales' disease, Behcet's disease, infections causing a retinitis or choroiditis, presumed ocular histoplasmosis, Best's disease, myopia, optic pits, Stargardt's disease, pars planitis, chronic retinal detachment, hyperviscosity syndrome, toxoplasmosis, trauma and post-laser complications, diseases associated with rubeosis, and proliferative vitreoretinopathy.

20. The use according to Claim 18, wherein the medicament is useful for treating a disorder chosen from Crohn's disease and ulcerative colitis, psoriasis, sarcoidosis, rheumatoid arthritis, hemangiomas, Osler-Weber-Rendu disease, or hereditary hemorrhagic telangiectasia, solid or blood borne tumors and acquired immune deficiency syndrome.

21. The use according to Claim 18, wherein the medicament is useful for treating a disease affected by the level of vascular endothelial growth factor, glyceraldehyde 3-phosphate dehydrogenase, and erythropoietin.

22. The use according to any one of Claims 1 to 21, wherein L is CH_2.

23. The use according to any one of Claims 1 to 21, wherein L is SO_2.

24. The use according to any one of Claims 1 to 21, wherein each R is a substitution for hydrogen independently chosen from:
i) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
ii) C_2-C_{12} substituted or unsubstituted linear, branched, or cyclic alkenyl;
iii) C_2-C_{12} substituted or unsubstituted linear or branched alkynyl;
iv) C_6 or C_{10} substituted or unsubstituted aryl;
v) C_1-C_9 substituted or unsubstituted heterocyclic;
vi) C_1-C_{11} substituted or unsubstituted heteroaryl;
vii) halogen;
viii) $-[C(R^{23a})(R^{23b})]_xOR^{10}$;
R^{10} is chosen from:

a) –H;
b) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
c) C_6 or C_{10} substituted or unsubstituted aryl or alkylenearyl;
d) C_1-C_9 substituted or unsubstituted heterocyclic;
e) C_1-C_{11} substituted or unsubstituted heteroaryl;

ix) $–[C(R^{23a})(R^{23b})]_xN(R^{11a})(R^{11b})$;

R^{11a} and R^{11b} are each independently chosen from:
a) –H;
b) $–OR^{12}$;
R^{12} is hydrogen or C_1-C4 linear alkyl;
c) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
d) C_6 or C_{10} substituted or unsubstituted aryl;
e) C_1-C_9 substituted or unsubstituted heterocyclic;
f) C_1-C_{11} substituted or unsubstituted heteroaryl; or
g) R^{11a} and R^{11b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;

x) $–[C(R^{23a})(R^{23b})]_xC(O)R^{13}$;

R^{13} is:
a) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
b) $–OR^{14}$;
R^{14} is hydrogen, substituted or unsubstituted C_1-C_4 linear alkyl, C_6 or C_{10} substituted or unsubstituted aryl, C_1-C_9 substituted or unsubstituted heterocyclic, C_1-C_{11} substituted or unsubstituted heteroaryl;
c) $–N(R^{15a})(R^{15b})$;
R^{15a} and R^{15b} are each independently hydrogen, C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl; C_6 or C_{10} substituted or unsubstituted aryl; C_1-C_9 substituted or unsubstituted heterocyclic; C_1-C_{11} substituted or unsubstituted heteroaryl; or R^{15a} and R^{15b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;

xi) $–[C(R^{23a})(R^{23b})]_xOC(O)R^{16}$;

R^{16} is:
a) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
b) $–N(R^{17a})(R^{17b})$;
R^{17a} and R^{17b} are each independently hydrogen, C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl; C_6 or C_{10} substituted or unsubstituted aryl; C_1-C_9 substituted or unsubstituted heterocyclic; C_1-C_{11} substituted or unsubstituted heteroaryl; or R^{17a} and R^{17b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;

xii) $–[C(R^{23a})(R^{23b})]_xNR^{18}C(O)R^{19}$;

R^{18} is:
a) –H; or

b) C_1-C_4 substituted or unsubstituted linear, branched, or cyclic alkyl;

$R^{19}$is:

a) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;

b) $-N(R^{20a})(R^{20b})$;

R^{20a} and R^{20b} are each independently hydrogen, C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl; C_6 or C_{10} substituted or unsubstituted aryl; C_1-C_9 substituted or unsubstituted heterocyclic; C_1-C_{11} substituted or unsubstituted heteroaryl; or R^{20a} and R^{20b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;

xiii) $-[C(R^{23a})(R^{23b})]_xCN$;

xiv) $-[C(R^{23a})(R^{23b})]_xNO_2$;

xv) $-[C(R^{23a})(R^{23b})]_xR^{21}$;

R^{21} is C_1-C_{10} linear, branched, or cyclic alkyl substituted by from 1 to 21 halogen atoms chosen from –F, –Cl, –Br, or –I;

xvi) $-[C(R^{23a})(R^{23b})]_xSO_2R^{22}$;

R^{22} is hydrogen, hydroxyl, substituted or unsubstituted C_1-C_4 linear or branched alkyl; substituted or unsubstituted C_6, C_{10}, or C_{14} aryl; C_7-C_{15} alkylenearyl; C_1-C_9 substituted or unsubstituted heterocyclic; or C_1-C_{11} substituted or unsubstituted heteroaryl;

R^{23a} and R^{23b} are each independently hydrogen or C_1-C_4 alkyl; and

the index x is an integer from 0 to 5.

25. The use according to any one of Claims 1 to 21, wherein the HIF-1α prolyl hydroxylase inhibitor is chosen from:

1-Benzyl-3-hydroxy-4-(piperidin-1-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(morpholin-4-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(thiomorpholin-4-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(thiazolidin-3-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(pyrrolidin-1-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(4-benzylpiperidin-1-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(4-benzylpiperazin-1-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-[(3-hydroxypyrrolidin-1-yl)methyl]pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(1,4-dioxa-8-azaspiro[4,5]dec-8-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-azepan-1-ylmethylpyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(azocan-1-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-(1,4'-bipiperidinyl-1'-ylmethyl)pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-[(3,4-dihydroquinolin-1(2*H*)-yl)methyl]pyridin-2(1*H*)-one;

Methyl 1-[(1-benzyl-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl)methyl]pyrrolidine-2-carboxylate;

1-Benzyl-3-hydroxy-4-{[2-(methoxymethyl)pyrrolidin-1-yl]methyl}pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-{[2-(pyrdin-2-yl)pyrrolidin-1-yl]methyl}pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-[4-(6-chloropyridazin-3-yl)piperazin-1-ylmethyl]pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-[4-(2-methoxyphenyl)piperazin-1-ylmethyl]pyridin-2(1*H*)-one;

1-(3-Methoxybenzyl)-3-hydroxy-4-(piperidin-1-ylmethyl)pyridin-2(1*H*)-one;

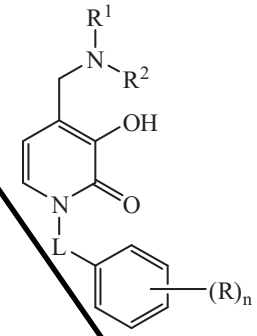
1-Benzyl-3-hydroxy-4-{[3-(1-*H*-imidazol-1-yl)propylamino]methyl}pyridin-2(1*H*)-one;

1-Benzyl-3-hydroxy-4-(benzylaminomethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[(2-(pyridin-2-yl)ethylamino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[(tetrahydrofuran-2-ylmethyl)amino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(2-methoxyethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(1-hydroxy-2-methylpropan-2-ylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(pyridin-4-ylmethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy 4-{[(furan-2-ylmethyl)amino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[2-(methylthio)ethylamino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(4-methoxybenzylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(1-phenylethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(cycloheptylaminomethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(4-methylcyclohexylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(1-benzylpiperidin-4-ylamino)methyl]pyridin-2(1*H*)-one;
3-[(1-Benzyl-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl)methylamino]azepan-2-one;
1-Benzyl-3-hydroxy-4-[(1-benzylpyrrolidin-3-ylamino)methyl]pyridin-2(1*H*)-one;
(*R*)-1-Benzyl-3-hydroxy-4-[(1-phenylethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[([1,3]dioxolan-2-ylmethylmethylamino)methyl]pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-(pyrrolidin-1-ylmethyl)pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-thiazolidin-3-ylmethylpyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-azocan-1ylmethylpyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-(4-phenylpiperazin-1-ylmethyl)-pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-[1,4']bipiperidinyl-1'-ylmethylpyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-[4-(6-chloropyridazin-3-yl)piperazin-1-ylmethyl]pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-(benzylaminomethyl)pyridin-2(1*H*)-one; and
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-[(2-methoxyethylamino)methyl]-pyridin-2(1*H*)-one.

26. The use according to any of Claims 1 to 23, wherein the HIF-1α 4-prolyl hydroxylase inhibitor is a salt comprising anions chosen from chloride, bromide, iodide, sulfate, bisulfate, carbonate, bicarbonate, phosphate, formate, acetate, propionate, butyrate, pyruvate, lactate, oxalate, malonate, maleate, succinate, tartrate, fumarate, and citrate.

27. The use according to any of Claims 1 to 23, wherein the HIF-1α 4-prolyl hydroxylase inhibitor is a salt comprising cations chosen from ammonium, sodium, lithium, potassium, calcium, magnesium, and bismuth.

28. A pharmaceutical composition comprising:
A) HIF-1α prolyl hydroxylase inhibitor having the formula:



wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5;
R^1 and R^2 are each independently chosen from:

i) hydrogen;
ii) substituted or unsubstituted C_1-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkyl;
iii) substituted or unsubstituted C_2-C_{10} linear, C_3-C_{10} branched, or C_3-C_{10} cyclic alkenyl;
iv) substituted or unsubstituted C_2-C_{10} linear or C_3-C_{10} branched alkynyl;
v) substituted or unsubstituted C_6 or C_{10} aryl;
vi) substituted or unsubstituted C_1-C_9 heterocyclic;
vii) substituted or unsubstituted C_1-C_9 heteroaryl; or
viii) R^1 and R^2 can be taken together to form a substituted or unsubstituted heterocyclic or substituted or unsubstituted heteroaryl ring having from 2 to 20 carbon atoms and from 1 to 7 heteroatoms; or

a pharmaceutically acceptable salt thereof;

B) one or more excipients.

29. The composition according to Claim 28, further comprising one or more chemotherapeutic agents or chemotherapeutic compounds.

30. The composition according to Claim 29, wherein the chemotherapeutic agent or chemotherapeutic compound is chosen from 5-fluorouracil, taxol, or leucovorin.

31. The composition according to Claim 28, further comprising one or more vaccines.

32. The composition according to Claim 31, wherein the vaccine stimulates antibodies against hepatitis, influenza, measles, rubella, tetanus, polio or rabies.

33. The composition according to any one of Claims 28 to 32, wherein L is CH_2.

34. The composition according to any one of Claims 28 to 32, wherein L is SO_2.

35. The composition according to any one of Claims 28 to 32, wherein each R is a substitution for hydrogen independently chosen from:

i) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
ii) C_2-C_{12} substituted or unsubstituted linear, branched, or cyclic alkenyl;

iii) C_2-C_{12} substituted or unsubstituted linear or branched alkynyl;
iv) C_6 or C_{10} substituted or unsubstituted aryl;
v) C_1-C_9 substituted or unsubstituted heterocyclic;
vi) C_1-C_{11} substituted or unsubstituted heteroaryl;
vii) halogen;
viii) $-[C(R^{23a})(R^{23b})]_xOR^{10}$;
R^{10} is chosen from:
a) –H;
b) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
c) C_6 or C_{10} substituted or unsubstituted aryl or alkylenearyl;
d) C_1-C_9 substituted or unsubstituted heterocyclic;
e) C_1-C_{11} substituted or unsubstituted heteroaryl;
ix) $-[C(R^{23a})(R^{23b})]_xN(R^{11a})(R^{11b})$;
R^{11a} and R^{11b} are each independently chosen from:
a) –H;
b) $-OR^{12}$;
R^{12} is hydrogen or C_1-C4 linear alkyl;
c) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
d) C_6 or C_{10} substituted or unsubstituted aryl;
e) C_1-C_9 substituted or unsubstituted heterocyclic;
f) C_1-C_{11} substituted or unsubstituted heteroaryl; or
g) R^{11a} and R^{11b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;
x) $-[C(R^{23a})(R^{23b})]_xC(O)R^{13}$;
R^{13} is:
a) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
b) $-OR^{14}$;
R^{14} is hydrogen, substituted or unsubstituted C_1-C_4 linear alkyl, C_6 or C_{10} substituted or unsubstituted aryl, C_1-C_9 substituted or unsubstituted heterocyclic, C_1-C_{11} substituted or unsubstituted heteroaryl;
c) $-N(R^{15a})(R^{15b})$;
R^{15a} and R^{15b} are each independently hydrogen, C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl; C_6 or C_{10} substituted or unsubstituted aryl; C_1-C_9 substituted or unsubstituted heterocyclic; C_1-C_{11} substituted or unsubstituted heteroaryl; or R^{15a} and R^{15b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;
xi) $-[C(R^{23a})(R^{23b})]_xOC(O)R^{16}$;
R^{16} is:
a) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;
b) $-N(R^{17a})(R^{17b})$;
R^{17a} and R^{17b} are each independently hydrogen, C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl; C_6 or C_{10} substituted or unsubstituted aryl; C_1-C_9

substituted or unsubstituted heterocyclic; C_1-C_{11} substituted or unsubstituted heteroaryl; or R^{17a} and R^{17b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;

xii) $–[C(R^{23a})(R^{23b})]_xNR^{18}C(O)R^{19}$;

R^{18} is:

a) –H; or

b) C_1-C_4 substituted or unsubstituted linear, branched, or cyclic alkyl;

$R^{19}$is:

a) C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl;

b) $–N(R^{20a})(R^{20b})$;

R^{20a} and R^{20b} are each independently hydrogen, C_1-C_{12} substituted or unsubstituted linear, branched, or cyclic alkyl; C_6 or C_{10} substituted or unsubstituted aryl; C_1-C_9 substituted or unsubstituted heterocyclic; C_1-C_{11} substituted or unsubstituted heteroaryl; or R^{20a} and R^{20b} can be taken together to form a substituted or unsubstituted ring having from 3 to 10 carbon atoms and from 0 to 3 heteroatoms chosen from oxygen, nitrogen, and sulfur;

xiii) $–[C(R^{23a})(R^{23b})]_xCN$;

xiv) $–[C(R^{23a})(R^{23b})]_xNO_2$;

xv) $–[C(R^{23a})(R^{23b})]_xR^{21}$;

R^{21} is C_1-C_{10} linear, branched, or cyclic alkyl substituted by from 1 to 21 halogen atoms chosen from –F, –Cl, –Br, or –I;

xvi) $–[C(R^{23a})(R^{23b})]_xSO_2R^{22}$;

R^{22} is hydrogen, hydroxyl, substituted or unsubstituted C_1-C_4 linear or branched alkyl; substituted or unsubstituted C_6, C_{10}, or C_{14} aryl; C_7-C_{15} alkylenearyl; C_1-C_9 substituted or unsubstituted heterocyclic; or C_1-C_{11} substituted or unsubstituted heteroaryl;

R^{23a} and R^{23b} are each independently hydrogen or C_1-C_4 alkyl; and

the index x is an integer from 0 to 5.

36. The composition according to any one of Claims 28 to 32, wherein the HIF-1α prolyl hydroxylase inhibitor is chosen from:

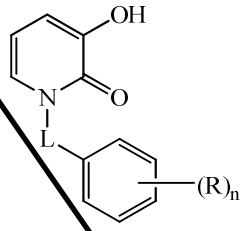
1-Benzyl-3-hydroxy-4-(piperidin-1-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(morpholin-4-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(thiomorpholin-4-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(thiazolidin-3-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(pyrrolidin-1-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(4-benzylpiperidin-1-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(4-benzylpiperazin-1-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(3-hydroxypyrrolidin-1-yl)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(1,4-dioxa-8-azaspiro[4,5]dec-8-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-azepan-1-ylmethylpyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(azocan-1-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-(1,4'-bipiperidinyl-1'-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(3,4-dihydroquinolin-1(2*H*)-yl)methyl]pyridin-2(1*H*)-one;

Methyl 1-[(1-benzyl-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl)methyl]pyrrolidine-2-carboxylate;
1-Benzyl-3-hydroxy-4-{[2-(methoxymethyl)pyrrolidin-1-yl]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[2-(pyrdin-2-yl)pyrrolidin-1-yl]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[4-(6-chloropyridazin-3-yl)piperazin-1-ylmethyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[4-(2-methoxyphenyl)piperazin-1-ylmethyl]pyridin-2(1*H*)-one;
1-(3-Methoxybenzyl)-3-hydroxy-4-(piperidin-1-ylmethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[3-(1-*H*-imidazol-1-yl)propylamino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(benzylaminomethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[(2-(pyridin-2-yl)ethylamino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[(tetrahydrofuran-2-ylmethyl)amino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(2-methoxyethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(1-hydroxy-2-methylpropan-2-ylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(pyridin-4-ylmethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy 4-{[(furan-2-ylmethyl)amino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-{[2-(methylthio)ethylamino]methyl}pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(4-methoxybenzylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(1-phenylethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-(cycloheptylaminomethyl)pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(4-methylcyclohexylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[(1-benzylpiperidin-4-ylamino)methyl]pyridin-2(1*H*)-one;
3-[(1-Benzyl-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl)methylamino]azepan-2-one;
1-Benzyl-3-hydroxy-4-[(1-benzylpyrrolidin-3-ylamino)methyl]pyridin-2(1*H*)-one;
(*R*)-1-Benzyl-3-hydroxy-4-[(1-phenylethylamino)methyl]pyridin-2(1*H*)-one;
1-Benzyl-3-hydroxy-4-[([1,3]dioxolan-2-ylmethylmethylamino)methyl]pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-(pyrrolidin-1-ylmethyl)pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-thiazolidin-3-ylmethylpyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-azocan-1ylmethylpyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-(4-phenylpiperazin-1-ylmethyl)-pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-[1,4']bipiperidinyl-1'-ylmethylpyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-[4-(6-chloropyridazin-3-yl)piperazin-1-ylmethyl]pyridin-2(1*H*)-one;
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-(benzylaminomethyl)pyridin-2(1*H*)-one; and
1-(4'-Methylbenzenesulfonyl)-3-hydroxy-4-[(2-methoxyethylamino)methyl]-pyridin-2(1*H*)-one.

37. The composition according to any of Claims 28 to 32, wherein the HIF-1α 4-prolyl hydroxylase inhibitor is a salt comprising anions chosen from chloride, bromide, iodide, sulfate, bisulfate, carbonate, bicarbonate, phosphate, formate, acetate, propionate, butyrate, pyruvate, lactate, oxalate, malonate, maleate, succinate, tartrate, fumarate, and citrate.

38. The composition according to any of Claims 28 to 32, wherein the HIF-1α 4-prolyl hydroxylase inhibitor is a salt comprising cations chosen from ammonium, sodium, lithium, potassium, calcium, magnesium, and bismuth.

39. A HIF-1α 4-prolyl hydroxylase inhibitor having the formula:



wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen;
the index n is an integer from 0 to 5; or
a pharmaceutically acceptable salt thereof.

40. The inhibitor according to Claim 50, chosen from:
1-(2-chlorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(3-chlorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(4-chlorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(2-fluorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(3-fluorobenzyl)-3-hydroxypyridin-2(1H)-one; and
1-(4-fluorobenzyl)-3-hydroxypyridin-2(1H)-one.

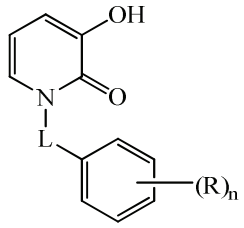
41. The use of a compound according to either one of Claims 39 to 40, for making a medicament for increasing the stabilization of Hypoxia Inducible Factor 1 (HIF-1) in a subject.

42. The use of a compound according to either one of Claims 39 to 40, for making a medicament for treating a disease or condition chosen from infection by a microorganism, anemia, diabetes, sepsis, peripheral vascular disease, a wound, or hypertension.

43. The use of a compound according to either one of Claims 39 to 40, for making a medicament for treating cancer in a subject.

44. The use of a compound according to either one of Claims 39 to 40, for making a medicament for enhancing the effectiveness of a vaccine.

45. A pharmaceutical composition comprising:
A) a HIF-1α 4-prolyl hydroxylase inhibitor having the formula:

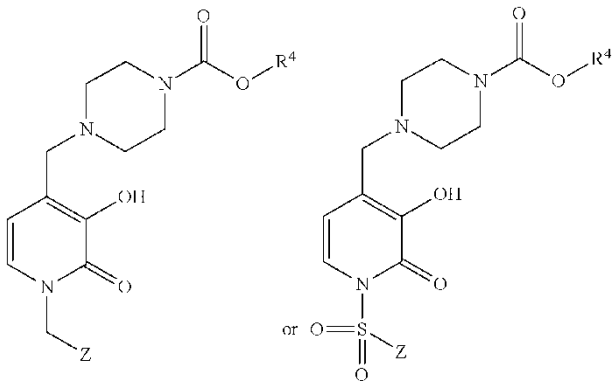


wherein L is chosen from CH_2 or SO_2;
R represents from 0 to 5 substitutions for hydrogen, said substitutions chosen from halogen, methyl, and methoxy;
the index n is an integer from 0 to 5; or
a pharmaceutically acceptable salt thereof; and
B) one or more excipients.

46. The composition according to Claim 45, wherein the HIF-1α 4-prolyl hydroxylase inhibitor is chosen from:
1-(2-chlorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(3-chlorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(4-chlorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(2-fluorobenzyl)-3-hydroxypyridin-2(1H)-one;
1-(3-fluorobenzyl)-3-hydroxypyridin-2(1H)-one; or
1-(4-fluorobenzyl)-3-hydroxypyridin-2(1H)-one.

What is claimed is:

1. Use of a composition in the manufacture of a medicament for treating a wound in a subject, the composition comprising a compound having the formula:



wherein Z is phenyl substituted with from 1 to 5 halogens chosen from fluorine and chlorine;

R^4 is C_1-C_4 linear alkyl or C_3-C_4 branched alkyl; or

a pharmaceutically acceptable salt thereof.

2. The use of a composition according to claim 1, wherein R^4 is methyl.

3. The use of a composition according to claim 1, wherein R^4 is ethyl.

4. The use of a composition according to claim 1, wherein R^4 is tert-butyl.

5. The use of a composition according to claim 1, wherein Z is 4-chlorophenyl.

6. The use of a composition according to claim 1, wherein Z is chosen from 2-chlorophenyl, 3-chlorophenyl, 2-fluorophenyl, 3-fluorophenyl, or 4-fluorophenyl.

7. The use of a composition according to claim 1, wherein Z is chosen from 2,3-difluorophenyl, 2,4-difluorophenyl, 2,5-difluorophenyl, 2,6-difluorophenyl, 2,3-dichlorophenyl, 2,4-dichlorophenyl, 2,5-dichlorophenyl, and 2,6-dichlorophenyl.

8. The use of a composition according to claim 1, wherein the compound is tert-butyl 4-{[1-(4-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate.

9. The use of a composition according to claim 1, wherein the compound chosen from:
Methyl 4-{[1-(4-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(3-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(2-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(4-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(3-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(2-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(3-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(2-chlorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(4-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(3-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(2-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(4-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(3-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(2-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(4-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(3-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(2-fluorobenzyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(4-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(3-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(2-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(4-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(3-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(2-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(3-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(2-chlorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(4-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(3-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Methyl 4-{[1-(2-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(4-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(3-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

Ethyl 4-{[1-(2-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(4-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate;

tert-Butyl 4-{[1-(3-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate; and

tert-Butyl 4-{[1-(2-fluorophenylsulfonyl)-3-hydroxy-2-oxo-1,2-dihydropyridin-4-yl]methyl}piperazine-1-carboxylate.

10. The use of a composition according to claim 1, wherein the compound is a pharmaceutically acceptable salt of an anion chosen from chloride, bromide, iodide, sulfate, bisulfate, carbonate, bicarbonate, phosphate, hydrogensulfonate, p-toluenesulfonate, methanesulfonate, formate, acetate, propionate, butyrate, pyruvate, lactate, oxalate, malonate, maleate, succinate, tartrate, fumarate, glycolate, or citrate.