

Formula (IB3)

wherein,

A, A¹, A², R¹, R³, R⁴, R⁷, and R⁹ are as defined above.

Yet another embodiment provides a pharmaceutical composition of a compound of any one of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3), or any one the specific compounds disclosed herein.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating leukemia and lymphomas in a subject in need thereof.

Yet another ~~embodiment~~example provides a method of treating leukemia and lymphoma comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating endometriosis in a subject in need thereof.

Yet another ~~embodiment~~example provides a method of treating endometriosis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as

described herein in the manufacture of a medicament for treating restenosis in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating restenosis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating atherosclerosis/thrombosis in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating atherosclerosis/thrombosis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating psoriasis in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating psoriasis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating age-related macular degeneration or diabetic retinopathy in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating age-related macular degeneration or diabetic retinopathy comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating retinopathy of prematurity in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating retinopathy of prematurity comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating renal transplant rejection in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating renal transplant rejection comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating rheumatoid arthritis in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating rheumatoid arthritis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating osteoarthritis in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating osteoarthritis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating osteoporosis in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating osteoporosis comprising administering to a subject in need thereof a pharmaceutically effective

amount of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating cataracts in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of treating cataracts comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

In another aspect, there is provided use of a pharmaceutically effective amount of a compound as described herein or a pharmaceutical composition as described herein in the manufacture of a medicament for treating metastasized tumors in a subject in need thereof.

Yet another ~~embodiment~~ example provides a method of preventing/treating tumor metastasis or treating metastasized tumors comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of a compound of Formula (I), (IA), or (IB), or any one of the substructures as represented by Formula (IA1), (IA2), (IA3), (IA4), (IA5), (IA6), (IA7), (IB1), (IB2), or (IB3) or a pharmaceutical composition comprising the same.

DETAILED DESCRIPTION

Definitions

Certain chemical groups named herein are preceded by a shorthand notation indicating the total number of carbon atoms that are to be found in the indicated chemical group. For example; C₇-C₁₂alkyl describes an alkyl group, as defined below, having a total of 7 to 12 carbon atoms, and C₄-C₁₂cycloalkylalkyl describes a cycloalkylalkyl group, as defined below, having a total of 4 to 12 carbon atoms. The total number of carbons in the shorthand notation does not include carbons that may exist in substituents of the group described.

Accordingly, as used in the specification and appended claims, unless specified to the contrary, the following terms have the meaning indicated:

“Amino” refers to the -NH_2 radical.

“Methoxy” refers to the -OCH_3 radical.

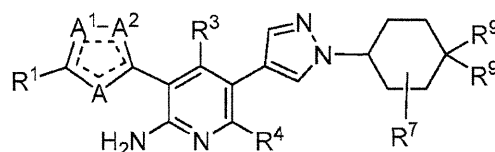
“Cyano” refers to the -CN radical.

“Nitro” refers to the -NO_2 radical.

“Trifluoromethyl” refers to the -CF_3 radical.

“Oxo” refers to the =O .

“Thioxo” refers to the =S .



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wherein,

each A, A¹ and A² is the same or different and independently N= , $\text{CR}^5\text{=}$, or -O- ;

R¹ is aryl, heteroaryl, cycloalkyl, or heterocyclyl; and

each of R³, R⁴, R⁷ and R⁹ is hydrogen;

64. A pharmaceutical composition comprising a compound of any one of claims 1-63 and a pharmaceutically acceptable excipient.

65. A method of treating leukemia and lymphomas comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

66. A method of treating endometriosis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

67. A method of treating restenosis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

68. A method of treating atherosclerosis/thrombosis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

69. A method of treating psoriasis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

70. A method of treating age- related macular degeneration or diabetic retinopathy comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

71. A method of treating retinopathy of prematurity comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

72. A method of treating renal transplant rejection comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

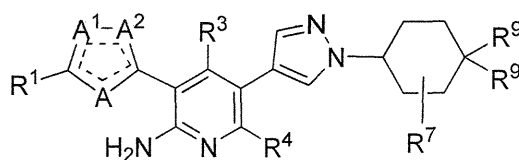
73. A method of treating rheumatoid arthritis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

74. A method of treating osteoarthritis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

75. A method of treating osteoporosis comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

76. A method of treating cataracts comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.

77. A method of treating metastasized tumors comprising administering to a subject in need thereof a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64.



Formula (IB3)

wherein,

each A, A¹ and A² is the same or different and independently -N=, -CR⁵=, or -O-;

R¹ is aryl, heteroaryl, cycloalkyl, or heterocyclyl; and

each of R³, R⁴, R⁷ and R⁹ is hydrogen;

64. A pharmaceutical composition comprising a compound of any one of claims 1-63 and a pharmaceutically acceptable excipient.

65. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating leukemia and lymphomas in a subject in need thereof.

66. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating endometriosis in a subject in need thereof.

67. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating restenosis in a subject in need thereof.

68. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating atherosclerosis/thrombosis in a subject in need thereof.

69. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating psoriasis in a subject in need thereof.

70. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating age-related macular degeneration or diabetic retinopathy in a subject in need thereof.

71. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating retinopathy of prematurity in a subject in need thereof.

72. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating renal transplant rejection in a subject in need thereof.

73. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating rheumatoid arthritis in a subject in need thereof.

74. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating osteoarthritis in a subject in need thereof.

75. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating osteoporosis in a subject in need thereof.

76. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating cataracts in a subject in need thereof.

77. Use of a pharmaceutically effective amount of a compound of any one of claims 1-63 or a pharmaceutical composition of claim 64 in the manufacture of a medicament for treating metastasized tumors in a subject in need thereof.