[0010] One embodiment provides a method of regulating gene transcription in a cell comprising inhibiting lysine-specific demethylase 1 activity by exposing the lysine-specific demethylase 1 enzyme to a compound of Formula (II).

[0011] One embodiment provides a method of treating cancer in a patient in need thereof, comprising administering to the patient a compound of Formula (II), or a pharmaceutically acceptable salt thereof.

[0011a] One embodiment provides the use of a compound of Formula (I), or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating cancer in a patient in need thereof.

[0011b] One embodiment provides the use of a compound of Formula (II), or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating cancer in a patient in need thereof.

INCORPORATION BY REFERENCE

[0012] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference.

DETAILED DESCRIPTION OF THE INVENTION

[0013] As used herein and in the appended claims, the singular forms "a," "and," and "the" include plural referents unless the context clearly dictates otherwise. Thus, for example, reference to "an agent" includes a plurality of such agents, and reference to "the cell" includes reference to one or more cells (or to a plurality of cells) and equivalents thereof known to those skilled in the art, and so forth. When ranges are used herein for physical properties, such as molecular weight, or chemical properties, such as chemical formulae, all combinations and subcombinations of ranges and specific embodiments therein are intended to be included. The term "about" when referring to a number or a numerical range means that the number or numerical range referred to is an approximation within experimental variability (or within statistical experimental error), and thus the number or numerical range may vary between 1% and 15% of the stated number or numerical range. The term "comprising" (and related terms such as "comprise" or "comprises" or "having" or "including") is not intended to exclude that in other certain embodiments, for example, an embodiment of any composition of matter,

composition, method, or process, or the like, described herein, may "consist of" or "consist essentially of" the described features.

Definitions

[0014] As used in the specification and appended claims, unless specified to the contrary, the following terms have the meaning indicated below.

[0015] "Amino" refers to the $-NH_2$ radical.

[0016] "Cyano" refers to the -CN radical.

26. The compound or pharmaceutically acceptable salt of claim 25, wherein the optionally substituted alkyl is an optionally substituted C_1-C_3 alkyl.

27. The compound or pharmaceutically acceptable salt of claim 25, wherein the optionally substituted alkyl is an optionally substituted C_1 alkyl.

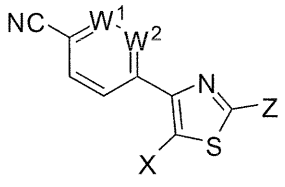
28. The compound or pharmaceutically acceptable salt of claim 25, wherein the optionally substituted alkyl is a methyl group.

29. A pharmaceutical composition comprising a compound of Formula (I), or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable excipient.

30. A method of regulating gene transcription in a cell comprising inhibiting lysine-specific demethylase 1 activity by exposing the lysine-specific demethylase 1 enzyme to a compound of Formula (I).

31. Use of a compound of Formula (I), or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating cancer in a patient in need thereof.

32. A compound having the structure of Formula (II), or a pharmaceutically acceptable salt thereof,



(II)

wherein,

W^1 and W^2 are independently chosen from N, C-H, or C-F;

X is chosen from hydrogen, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted alkylamino, optionally substituted alkynyl, optionally substituted cycloalkylalkynyl, optionally substituted (cycloalkylalkyl)alkynyl, optionally substituted heterocyclylalkynyl, optionally substituted (heterocyclylalkyl)alkynyl, optionally substituted aryl, or optionally substituted heteroaryl; and

Z is chosen from an optionally substituted group chosen from *N*-heterocyclyl, -C(O)-*N*-heterocyclyl, -O-heterocyclylalkyl, -N(H)-heterocyclylalkyl, -N(H)-alkyl, -N(Me)-alkyl, or -N(Me)-heterocyclylalkyl.

33. The compound or pharmaceutically acceptable salt of claim 32, wherein W^2 is C-H.

34. The compound or pharmaceutically acceptable salt of claim 32 or 33, wherein W^1 is C-F.

35. The compound or pharmaceutically acceptable salt of claim 32 or 33, wherein W^1 is C-H.

36. The compound or pharmaceutically acceptable salt of claim 32 or 33, wherein W^1 is N.

49. The compound or pharmaceutically acceptable salt of claims 32-42, wherein Z is an optionally substituted *N*-heterocyclyl.

50. The compound or pharmaceutically acceptable salt of claim 49, wherein the optionally substituted *N*-heterocyclyl is a 4-, 5-, 6-, or 7-membered N-heterocyclyl.

51. The compound or pharmaceutically acceptable salt of claim 49, wherein the optionally substituted *N*-heterocyclyl is a 6-membered N-heterocyclyl.

52. The compound or pharmaceutically acceptable salt of claim 49, wherein the optionally substituted *N*-heterocyclyl is an optionally substituted piperidine.

53. The compound or pharmaceutically acceptable salt of claim 52, wherein the optionally substituted piperidine is an optionally substituted 4-aminopiperidine.

54. The compound or pharmaceutically acceptable salt of claims 32-42, wherein Z is an optionally substituted -C(O)-*N*-heterocyclyl.

55. The compound or pharmaceutically acceptable salt of claim 54, wherein the optionally substituted *N*-heterocyclyl is an optionally substituted piperidine.

56. A pharmaceutical composition comprising a compound of Formula (II), or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable excipient.

57. A method of regulating gene transcription in a cell comprising inhibiting lysine-specific demethylase 1 activity by exposing the lysine-specific demethylase 1 enzyme to a compound of Formula (II).

58. Use of a compound of Formula (II), or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating cancer in a patient in need thereof.