

optionally substituted heteroaryl, and optionally substituted heteroaryloxy, optionally substituted heterocyclyl, optionally substituted heterocyclyloxy, substituted heterocyclylalkyl, optionally substituted heterocyclylalkoxy, optionally substituted C₆-C₁₀ aryl-SO₂-, optionally substituted heteroaryl-S-, or -N(R¹)(R²), wherein R¹ is hydrogen or optionally substituted alkyl, and R² is chosen from optionally substituted alkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted cycloalkyl, optionally substituted cycloalkylalkyl, optionally substituted aryl-CO-, optionally substituted heteroaryl-CO-, optionally substituted cycloalkyl-CO-, or optionally substituted alkyl-CO-;

with the provision that at least one of R⁵, R⁷ and R⁸ is hydrogen.

[0009] One embodiment provides a pharmaceutical composition comprising a pharmaceutically acceptable carrier and a substituted pyridine derivative compound as described herein, or a stereoisomer or pharmaceutically acceptable salt thereof.

[0010] One embodiment provides a method of inhibiting a histone demethylase enzyme comprising contacting the histone demethylase enzyme with a substituted pyridine derivative compound as described herein, or a stereoisomer thereof.

[0011] One embodiment provides a method of treating cancer in a subject in need thereof, comprising administering to the subject a composition comprising a substituted pyridine derivative compound as described herein, or a stereoisomer, or a pharmaceutically acceptable salt thereof.

[0011a] One embodiment provides the use of a composition comprising of Formula (II) as described herein, or pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating cancer in a subject in need thereof.

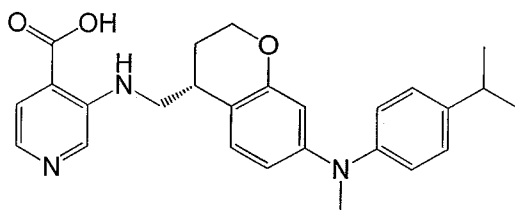
[0011b] One embodiment provides a method of inhibiting a histone demethylase JMJD3 enzyme in vitro comprising contacting the histone demethylase JMJD3 enzyme with a compound of Formula (II) as described herein.

INCORPORATION BY REFERENCE

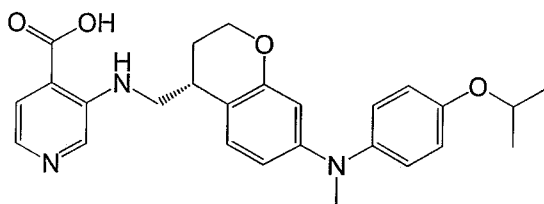
[0012] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference.

DETAILED DESCRIPTION OF THE INVENTION

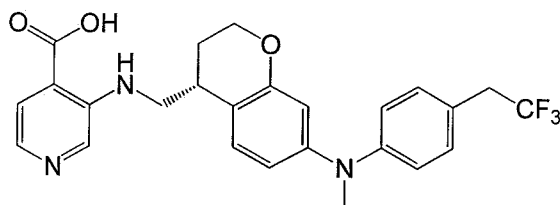
[0013] As used herein and in the appended claims, the singular forms "a," "and," and "the" include plural referents unless the context clearly dictates otherwise. Thus, for example, reference to "an agent" includes a plurality of such agents, and reference to "the cell" includes reference to one or



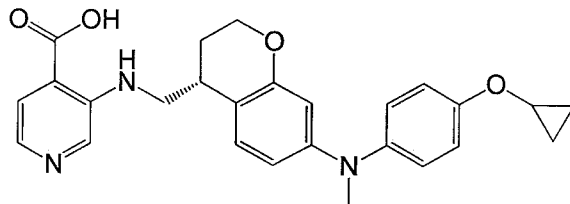
27. The compound, or pharmaceutically acceptable salt thereof, of claim 2, having the structure:



28. The compound, or pharmaceutically acceptable salt thereof, of claim 2, having the structure:



29. The compound, or pharmaceutically acceptable salt thereof, of claim 2, having the structure:



30. A pharmaceutical composition comprising a compound of Formula (II) as described in claim 1, or pharmaceutically acceptable salt thereof, and pharmaceutically acceptable excipient.

31. A method of inhibiting a histone demethylase JMJD3 enzyme in vitro comprising contacting the histone demethylase JMJD3 enzyme with a compound of Formula (II) as described in claim 1.

32. Use of a composition comprising of Formula (II) as described in claim 1, or pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating cancer in a subject in need thereof.