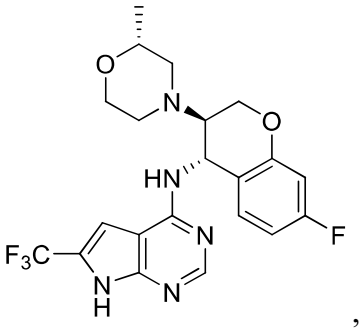
[0008] Despite the widespread prevalence of disorders associated with PINK1 pathway, compounds capable of selectively targeting this pathway and, thus, treating disorders associated with this pathway have remained elusive. Accordingly, there remains a need for compounds and compositions capable of modulating PINK1 kinase activity and methods of making and using same.

SUMMARY

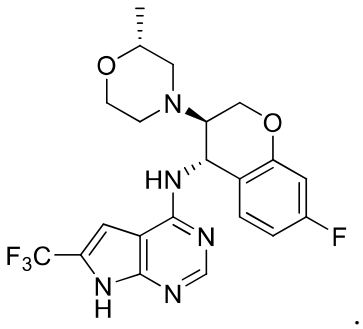
[0008a] In an aspect, there is provided a compound having the structure:



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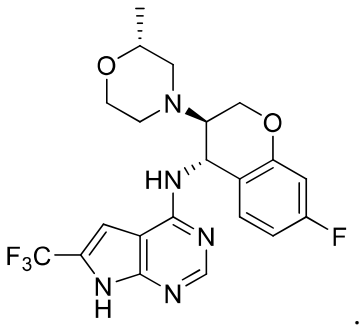
or a pharmaceutically acceptable salt thereof.

[0008b] In another aspect, there is provided a compound having the structure:



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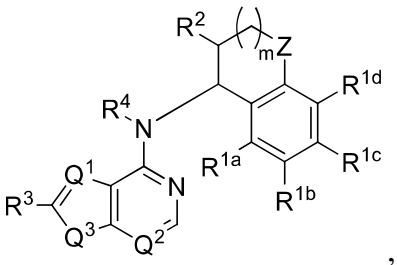
[0008c] In another aspect, there is provided a pharmaceutically acceptable salt of a compound having the structure:



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[0009] In accordance with the purpose(s) of the invention, as embodied and broadly described herein, the invention, in some embodiments, relates to adenine compounds useful in the treatment of disorders associated with PINK1 kinase activity such as, for example, a neurodegenerative disease, a mitochondrial disease, fibrosis, and/or cardiomyopathy.

[0010] Thus, in an example, there is provided herein are compounds having a structure represented by a formula:



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wherein m is 0 or 1; wherein each of Q^1 and Q^2 is independently N or CH; wherein Q^3 is CH_2 or NH; wherein Z is $CR^{11a}R^{11b}$, NR^{12}, or O; wherein each of R^{11a} and R^{11b}, when present, is independently selected from hydrogen, halogen, –OH, and C1-C4 alkyloxy, or wherein each of R^{11a} and R^{11b}, when present, together comprise =O; wherein R^{12}, when present, is hydrogen, C1-C4 alkyl, C3-C6 cycloalkyl, or –(C1-C4 alkyl)(C3-C6 cycloalkyl); wherein each of R^{1a}, R^{1b}, R^{1c}, and R^{1d} is independently selected from hydrogen, halogen, –CN, $–NH_2$, –OH, $–NO_2$, C1-C4 alkyl, C2-C4 alkenyl, C1-C4 haloalkyl, C1-C4 cyanoalkyl, C1-C4 hydroxyalkyl, C1-C4 haloalkoxy, C1-C4 alkoxy, C1-C4 alkylamino, and (C1-C4)(C1-C4) dialkylamino; wherein R^2 is selected from $–(CH_2)_nCy^1$, $–O(CH_2)_nCy^1$, $–NR^{13}(CH_2)_nCy^1$, $–CH(OH)Cy^1$, and Cy^1; wherein n, when present, is 0, 1, or 2; wherein R^{13}, when present, is selected from hydrogen and C1-C4 alkyl; wherein Cy^1 is a C4-C9 cycloalkyl, a C3-C9 heterocycle having at least one O, S, or N atom, or a C2-C9 heteroaryl having at least one O, S, or N atom, and substituted with 0, 1, 2, or 3 groups independently selected from halogen, –CN, $–NH_2$, –OH, $–NO_2$, =O, C3-C6 cycloalkyl, C2-C5 heterocycloalkyl, C1-C4 alkyl, C2-C4 alkenyl, C1-C4 haloalkyl, C1-C4 cyanoalkyl, C1-C4 hydroxyalkyl, C1-C4 haloalkoxy, C1-

[0013] Also provided are methods for making a disclosed compound.

[0014] Also provided are pharmaceutical compositions comprising a therapeutically effective amount of a disclosed compound and a pharmaceutically acceptable carrier.

[0015] Also provided are methods of modulating PINK1 kinase activity in a subject in need thereof, the method comprising administering to the subject in need thereof an effective amount of at least one disclosed compound.

[0016] Also disclosed are methods of modulating PINK1 kinase activity in at least one cell, the method comprising contacting the cell with an effective amount of at least one disclosed compound.

[0017] Also provided are methods for treating a disorder in a subject in need thereof, the method comprising administering to the subject in need thereof an effective amount of at least one disclosed compound, wherein the disorder is a neurodegenerative disorder, a mitochondrial disorder, a fibrosis, or cardiomyopathy.

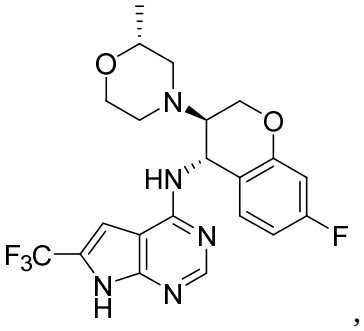
[0018] Also provided are kits comprising a disclosed compound and one or more of: (a) at least one agent known for the treatment of a neurodegenerative disorder, a mitochondrial disorder, a fibrosis, and cardiomyopathy; (b) instructions for administering the compound in connection with the neurodegenerative disorder, a mitochondrial disorder, a fibrosis, or cardiomyopathy; and/or (c) instructions for treating the disorder.

[0019] Still other objects and advantages of the present disclosure will become readily apparent by those skilled in the art from the following detailed description, wherein it is shown and described only the preferred embodiments, simply by way of illustration of the best mode. As will be realized, the disclosure is capable of other and different embodiments,

CLAIMS

What is claimed is:

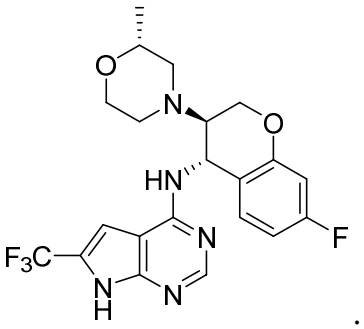
1. A compound having the structure:



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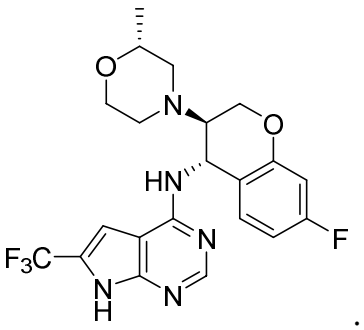
or a pharmaceutically acceptable salt thereof.

2. A compound having the structure:



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3. A pharmaceutically acceptable salt of a compound having the structure:



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