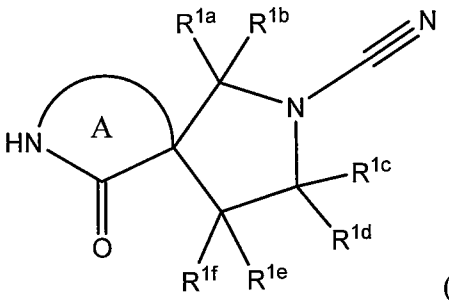
Claims

1. A compound of formula I:



(I)

a tautomer thereof, or a pharmaceutically acceptable salt of said compound or tautomer, wherein:

R^{1a}, R^{1b}, R^{1c} and R^{1d} each independently represent hydrogen or an optionally substituted C_1-C_6 alkyl, or R^{1a} and R^{1b} together form a 3 to 6-membered cycloalkyl ring, R^{1c} and R^{1d} together form a 3 to 6-membered cycloalkyl ring, or R^{1d} together with R^{1e} forms a 3 to 6-membered cycloalkyl ring;

R^{1e} and R^{1f} each independently represent hydrogen, fluorine, cyano, hydroxyl, amino, optionally substituted C_1-C_6 alkyl, optionally substituted C_1-C_6 alkoxy or a 5 or 6-membered heteroaryl or aryl ring, or R^{1e} forms a 3 to 6-membered cycloalkyl ring with R^{1f} or R^{1d};

ring A is a 5 to 11-membered monocyclic or bicyclic heterocyclyl ring which may be optionally substituted with one to four $-Q^1-(R^2)_n$, wherein each $-Q^1-(R^2)_n$ is the same or different and wherein:

n is 0 or 1;

Q^1 represents halogen, cyano, oxo, nitro, hydroxyl, $-SR^3$, $-NR^3R^4$, $-CONR^3R^4$, $-NR^3COR^4$, $-NR^3CONR^4R^{4a}$, $-COR^3$, $-C(O)OR^3$, $-SO_2R^3$, $-SO_2NR^3R^4$, $-NR^3SO_2R^4$, $NR^3SO_2NR^4R^{4a}$, $-NR^3C(O)OR^4$, optionally substituted $-C_1$-C_6 alkyl, optionally substituted $-C_1$-C_6 alkoxy, optionally substituted $-C_2$-C_6 alkenyl, optionally substituted $-C_2$-C_6 alkynyl, a covalent bond, an oxygen atom, a sulphur atom, $-OR^5-$, -SO-, $-SO_2-$, -CO-, -C(O)O-, $-C_0$-C_3 alkylene-$CONR^3$-C_0-C_3 alkylene, $-C_0$-C_3 alkylene-NR^3-C_0-C_3 alkylene, $-C_0$-C_3 alkylene-NR^3CO-C_0-C_3 alkylene, $-C_0$-C_3 alkylene-NR^3CONR^4-C_0-C_3 alkylene, $-SO_2NR^3-$, $-NR^3SO_2-$, $-NR^3SO_2NR^4-$, $-NR^3C(O)O-$, $-NR^3C(O)OR^5-$, optionally substituted C_1-C_6 alkylene or optionally substituted $-C_2$-C_6 alkenylene;

R^2 represents a 3 to 10-membered heterocyclyl, cycloalkyl, heteroaryl or aryl ring, which is optionally substituted with one to four substituents selected from halogen, cyano, oxo, nitro, hydroxyl $-SR^6$, $-NR^6R^7$, $-CONR^6R^7$, $-NR^6COR^7$, $-NR^6CONR^7R^{7a}$, $-COR^6$, $-C(O)OR^6$, $-SO_2R^6$, $-SO_2NR^6R^7$, $-NR^6SO_2R^7$, $NR^6SO_2NR^7R^{7a}$, $-NR^6C(O)OR^7$, $-C_1$-C_6 alkyl, $-C_1$-C_6 alkoxy,$-C_2$-C_6 alkenyl, $-C_2$-C_6 alkynyl, $-Q^{2a}-R^8$, $-Q^{2b}-NR^6CONR^7R^{7a}$, $-Q^{2b}-NR^6CONR^7-Q^{2c}-R^8$, $-Q^{2b}-NR^6R^7$, $-Q^{2b}-NR^6-Q^{2c}-R^8$, $-Q^{2b}-COR^6$, $-Q^{2b}-CO-Q^{2c}-R^8$, $-Q^{2b}-NR^6COR^7$, $-Q^{2b}-NR^6CO-Q^{2c}-R^8$, $-Q^{2b}-NR^6C(O)OR^7$, $-Q^{2b}-NR^6C(O)O-Q^{2c}-R^8$, $-Q^{2b}-SO_2R^6$, $-Q^{2b}-SO_2-Q^{2c}-R^8$, $-Q^{2b}-CONR^6R^7$, $-Q^{2b}-CONR^6-Q^{2c}-R^8$, $-Q^{2b}-CO_2R^6$, $-Q^{2b}-CO_2-$

Q^{2c}-R^8, -Q^{2b}-$SO_2NR^6R^7$, -Q^{2b}-SO_2NR^6-Q^{2c}-R^8, –Q^2-$NR^6SO_2R^7$, –Q^2-NR^6SO_2-Q^{2c}-R^8, -Q^{2b}-$NR^6SO_2NR^7R^{7a}$ and -Q^{2b}-$NR^6SO_2NR^7$-Q^{2c}-R^8;

Q^{2a} represents a covalent bond, an oxygen atom, a sulphur atom, -SO-, -SO_2-, -CO-, optionally substituted C_1-C_6 alkylene or optionally substituted C_2-C_6 alkenylene;

Q^{2b} and Q^{2c} each independently represent a covalent bond, optionally substituted C_1-C_6 alkylene or optionally substituted C_2-C_6 alkylenylene;

R^3, R^4 and R^{4a} each independently represent hydrogen or optionally substituted C_1-C_6 alkyl;

R^5 represents optionally substituted C_1-C_6 alkylene;

R^6, R^7 and R^{7a} each independently represent hydrogen or optionally substituted C_1-C_6 alkyl;

R^8 represents 3 to 10-membered heterocyclyl, 5 to 10-membered heteroaryl, 5 to 10-membered aryl, or 3 to 10-membered cycloalkyl; wherein R^8 is optionally substituted by fluorine, chlorine, oxo, cyano, C_1-C_3 alkyl, or C_1-C_3 alkoxy; and

wherein the alkyl, alkoxy, alkenyl, alkynyl, alkylene and alkenylene groups of R^{1a}, R^{1b}, R^{1c}, R^{1d}, R^{1e}, R^{1f}, R^2, R^3, R^4, R^{4a}, R^5, R^6, R^7, R^{7a}, Q^1, Q^{2a}, Q^{2b} and Q^{2c}, are optionally substituted with one to four substituents selected from halogen, hydroxyl, thiol, cyano, amino, nitro and SF_5.

2. The compound according to claim 1, wherein ring A contains 1 to 4 heteroatoms.

3. The compound according to either claim 1 or claim 2, wherein ring A is a 9, 10, or 11-membered fused bicyclic heterocyclyl ring.

4. The compound according to claim 3, wherein ring A is selected from indoline-2-one, 3,4-dihydroquinolin-2(1*H*)-one, 1*H*-pyrido[2,3-*b*][1,4]oxazin-2(3*H*)-one, 3,4-dihydropyrido[2,3-*b*]pyrazine-2(1*H*)-one, 1,5-diydrobenzo[*e*][1,4]oxazepin-2(3*H*)-one, 3,4-dihydro-1,5-naphthyridin-2(1*H*)-one, 3,4-dihydro-1,6-naphthyridin-2(1*H*)-one, 3,4-dihydro-1,7-naphthyridin-2(1*H*)-one, 3,4-dihydro-1,8-naphthyridin-2(1*H*)-one, 3,4-dihydropyrazino[2,3-*b*]pyrazine-2(1*H*)-one and 1,2,3,5-tetrahydro-4H-pyrido[2,3-b][1,4]diazepin-4-one.

5. The compound according to either claim 1 or claim 2, wherein ring A is a 5 or 6-membered monocyclic heterocyclyl ring.

6. The compound according to claim 5, wherein ring A is selected from piperidin-2-one, piperazine-2-one and pyrrolidin-2-one.

7. The compound according to any one of claims 1 to 6, wherein ring A is either unsubstituted or is substituted with one, two or three -Q^1-$(R^2)_n$, wherein each -Q^1-$(R^2)_n$ is the same or different.

8. The compound according to any one of claims 1 to 7, wherein n is 1; and Q^1 is selected from a covalent bond and C_1-C_3 alkylene.

9. The compound according to any one of claims 1 to 8, wherein R^2 is a 5 or 6-membered monocyclic, or a 9 or 10-membered bicyclic, optionally substituted, heterocyclyl, cycloalkyl, heteroaryl or aryl ring.

10. The compound according to claim 9, wherein R^2 is selected from optionally substituted, piperidinyl, pyrrolyl, phenyl, pyrazolyl, isoxazolyl, indazolyl, pyridinyl, dihydropyridinyl, benzothiazolyl and pyrimidinyl.

11. The compound according to any one of claims 1 to 10, wherein R^2 is unsubstituted, or substituted with one or two substituents selected from halogen, cyano, oxo, C_1-C_3 alkyl, C_1-C_3 alkoxy, -$CONR^6R^7$, -NR^6COR^7, -Q^{2a}-R^8, and -Q^{2b}-NR^6SO_2-Q^{2c}-R^8; wherein
alkyl and alkoxy are optionally substituted with fluorine;
Q^{2a} is a covalent bond, an oxygen atom, -CO-, -SO_2- or -C_1-C_3 alkylene;
Q^{2b} is a covalent bond or C_1-C_3 alkylene;
Q^{2c} is a covalent bond;
R^6 and R^7 are each independently selected from hydrogen and C_1-C_3 alkyl; and
R^8 is selected from phenyl, piperazinyl, cyclopropyl, morpholinyl and piperidinyl.

12. The compound according to any one of claims 1 to 7, wherein n is 0; Q^1 is selected from oxo, methyl, ethyl, CF_3, methoxy, halogen and -$C(O)NR^3R^4$; and R^3 and R^4 are each independently selected from hydrogen and methyl.

13. The compound according to any one of claims 1 to 12, wherein R^{1a}, R^{1b}, R^{1c}, R^{1d}, R^{1f} and R^{1e} are each hydrogen.

14. A compound according to claim 1 selected from the group consisting of:
2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-chloro-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-methoxy-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(5-isopropyl-2-methoxyphenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-([1,1'-biphenyl]-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(4-(benzyloxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(2-fluoro-5-methylphenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

7'-(3-cyanophenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(1-methyl-1H-pyrazol-5-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
2'-oxo-7'-(4-phenoxyphenyl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(1-methyl-1H-pyrazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(4-cyanophenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(2-chloro-5-(trifluoromethoxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
5-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)-N-methylpicolinamide;
7'-(2-(benzyloxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
4-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)-N-methylbenzamide;
7'-(3-((2-chlorobenzyl)oxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(4-(4-methylpiperazin-1-yl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(6-methoxypyridin-3-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(5-fluoro-2-isopropoxyphenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(3-methyl-1H-indazol-6-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(4-(4-methylpiperazine-1-carbonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(1-methyl-1H-indazol-5-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(5-methyl-1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
N-(3-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)phenyl)cyclopropanesulfonamide;
7'-(3-methyl-1H-pyrazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
2'-oxo-7'-(pyrimidin-5-yl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
N-(3-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)phenyl)acetamide;
3-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)-N,N-dimethylbenzamide;
N-(4-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)phenyl)acetamide;
7'-(4-(morpholinosulfonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

7'-(3,5-dimethyl-1H-pyrazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

7'-(2-methylpyridin-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

2'-oxo-7'-(3-(piperidin-1-yl)phenyl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

N-(2-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)phenyl)acetamide;

7'-(4-(morpholine-4-carbonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

7'-(3-(morpholinosulfonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

7'-(1-methyl-6-oxo-1,6-dihydropyridin-3-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

7'-(2-methylbenzo[d]thiazol-5-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

2'-oxo-6'-phenyl-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(4-cyanophenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(3-cyanophenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(4-fluorophenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(3-fluorophenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

1-cyano-N,N-dimethyl-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-7'-carboxamide;

1-cyano-N-methyl-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-7'-carboxamide;

2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

2-oxo-7-phenyl-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(4-cyanophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(3-cyanophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(4-fluorophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(3-fluorophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

2-oxo-6-phenyl-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;

2-oxo-6-(trifluoromethyl)-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;

2-oxo-7-phenyl-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(4-cyanophenyl)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(4-fluorophenyl)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(3-fluorophenyl)-;2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;

3-oxo-3,4-dihydro-1H-spiro[pyrido[2,3-b]pyrazine-2,3'-pyrrolidine]-1'-carbonitrile;
6-oxo-2,7-diazaspiro[4.4]nonane-2-carbonitrile;
(R)-6-oxo-2,7-diazaspiro[4.4]nonane-2-carbonitrile;
(S)-2-oxo-7-phenyl-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;
(R)-2'-oxo-6'-phenyl-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
(S)-2-oxo-7-phenyl-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(3-fluorophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(4-cyanophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(3-cyanophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(4-fluorophenyl)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(3-fluorophenyl)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(4-fluorophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(3-cyanophenyl)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;
(8R)-8-methyl-7,10-dioxo-2,6,9-triazaspiro[4.5]decane-2-carbonitrile;
7,10-dioxo-2,6,9-triazaspiro[4.5]decane-2-carbonitrile;
(8S)-8-methyl-7,10-dioxo-2,6,9-triazaspiro[4.5]decane-2-carbonitrile;
7,10-dioxo-8-phenyl-2,6,9-triazaspiro[4.5]decane-2-carbonitrile;
8-ethyl-6-oxo-2,7-diazaspiro[4.4]nonane-2-carbonitrile;
8-benzyl-6-oxo-2,7-diazaspiro[4.4]nonane-2-carbonitrile;
8-methyl-6-oxo-2,7-diazaspiro[4.4]nonane-2-carbonitrile;
2-oxo-1,5-dihydro-2H-spiro[benzo[e][1,4]oxazepine-3,3'-pyrrolidine]-1'-carbonitrile;
2-oxo-1,2,4,5-tetrahydrospiro[pyrido[2,3-b][1,4]diazepine-3,3'-pyrrolidine]-1'-carbonitrile;
8-methyl-7,10-dioxo-8-phenyl-2,6,9-triazaspiro[4.5]decane-2-carbonitrile;
2-oxo-6-phenyl-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;
7-(5-methyl-1H-indazol-4-yl)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;
7-(1,4-dimethyl-1H-pyrazol-5-yl)-2-oxo-1,4-dihydro-2H-spiro[pyrido[2,3-b]pyrazine-3,3'-pyrrolidine]-1'-carbonitrile;

(R)-7'-(5-methyl-1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

(R)-7'-(4-(4-methylpiperazin-1-yl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

7'-(1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

(R)-7'-(1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

(S)-7'-(1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

(R)-6'-(1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

1'-cyano-N-(4-fluorophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-6-carboxamide;

2-oxo-6-(piperidine-1-carbonyl)-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

6-(1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

(S)-7-(1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

(S)-6-(1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

(S)-1'-cyano-N-(4-fluorophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-6-carboxamide;

1'-cyano-2-oxo-N-phenyl-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-6-carboxamide;

1'-cyano-N-(2-fluorophenyl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-6-carboxamide;

7-(1-methyl-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

(R)-7-(1-methyl-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

(S)-7-(1-methyl-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

7-(1-(2-hydroxyethyl)-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

(R)-7-(1-(2-hydroxyethyl)-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;

(S)-7-(1-(2-hydroxyethyl)-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
7-(1-(2-methoxyethyl)-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(R)-7-(1-(2-methoxyethyl)-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(1-(2-methoxyethyl)-1H-indazol-4-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
7-(6-methoxy-2-methylpyridin-3-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(R)-7-(6-methoxy-2-methylpyridin-3-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
(S)-7-(6-methoxy-2-methylpyridin-3-yl)-2-oxo-1,2-dihydrospiro[pyrido[2,3-b][1,4]oxazine-3,3'-pyrrolidine]-1'-carbonitrile;
2'-oxo-7'-(3-(trifluoromethoxy)phenyl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
4-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-7'-yl)-N,N-dimethylbenzamide;
7'-(3-(4-methylpiperazine-1-carbonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
7'-(1-methyl-1H-pyrrol-2-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
6'-([1,1'-biphenyl]-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
6'-(4-(benzyloxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
6'-(1-methyl-1H-pyrazol-5-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
2'-oxo-6'-(3-(trifluoromethoxy)phenyl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
2'-oxo-6'-(4-phenoxyphenyl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
6'-(1-methyl-1H-pyrazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
5-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)-N-methylpicolinamide;
6'-(2-(benzyloxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
4-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)-N-methylbenzamide;
6'-(5-isopropyl-2-methoxyphenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
6'-(3-((2-chlorobenzyl)oxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
6'-(6-methoxypyridin-3-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(5-fluoro-2-isopropoxyphenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(3-methyl-1H-indazol-6-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(4-(4-methylpiperazine-1-carbonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(1-methyl-1H-indazol-5-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(5-methyl-1H-indazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

N-(3-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)phenyl)cyclopropanesulfonamide;

4-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)-N,N-dimethylbenzamide;

2'-oxo-6'-(pyrimidin-5-yl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

N-(3-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)phenyl)acetamide;

N-(4-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)phenyl)acetamide;

6'-(3-(4-methylpiperazine-1-carbonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(1-methyl-1H-pyrrol-2-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(4-(morpholinosulfonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(3,5-dimethyl-1H-pyrazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

2'-oxo-6'-(3-(piperidin-1-yl)phenyl)-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

N-(2-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)phenyl)acetamide;

6'-(4-(morpholine-4-carbonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(3-(morpholinosulfonyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(1-methyl-6-oxo-1,6-dihydropyridin-3-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(2-methylbenzo[d]thiazol-5-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(3,5-dimethylisoxazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(2-chloro-5-(trifluoromethoxy)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;

6'-(4-(4-methylpiperazin-1-yl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
N-benzyl-4-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)benzamide;
6'-(3-methyl-1H-pyrazol-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
6'-(4-(morpholinomethyl)phenyl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
3-(1-cyano-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinolin]-6'-yl)-N,N-dimethylbenzamide; and
6'-(2-methylpyridin-4-yl)-2'-oxo-1',4'-dihydro-2'H-spiro[pyrrolidine-3,3'-quinoline]-1-carbonitrile;
a tautomer thereof, or a pharmaceutically acceptable salt of said compound or tautomer.

15. Use of a compound according to any one of claims 1 to 14, a tautomer thereof, or a pharmaceutically acceptable salt of said compound or tautomer, in the manufacture of a medicament.

16. Use of a compound according to any one of claims 1 to 14, a tautomer thereof, or a pharmaceutically acceptable salt of said compound or tautomer, in the manufacture of a medicament for the treatment of cancer or inflammation.

17. Use according to claim 16, wherein the cancer is selected from breast, ovarian, prostate, lung, kidney, gastric, colon, testicular, head and neck, pancreas, brain, melanoma, bone, cancers of tissue organs, cancers of the blood cells, leukaemia, lymphoma, multiple myeloma, colorectal cancer, and non-small cell lung carcinoma.

18. Use of a compound according to any one of claims 1 to 14, a tautomer thereof, or a pharmaceutically acceptable salt of said compound or tautomer, in the manufacture of a medicament for the treatment of a condition involving mitochondrial dysfunction, selected from a CNS disorder; neurodegenerative disease; Parkinson's disease; Alzheimer's disease; amyotrophic lateral sclerosis; Huntington's disease; ischemia; stroke; dementia with Lewy bodies; frontotemporal dementia; multiple sclerosis; mitochondrial myopathy; encephalopathy; lactic acidosis; stroke-like episodes syndrome; Leber's hereditary optic neuropathy; cancer; neuropathy, ataxia, retinitis pigmentosa-maternally inherited Leigh syndrome; Danon disease; diabetes; diabetic nephropathy; metabolic disorders; heart failure; ischemic heart disease leading to myocardial infarction; psychiatric diseases, schizophrenia; multiple sulfatase deficiency; mucolipidosis II; mucolipidosis III; mucolipidosis IV; GMl-gangliosidosis; neuronal ceroid-lipofuscinoses; Alpers disease; Barth syndrome; Beta-oxidation defects; carnitine-acyl-carnitine deficiency; carnitine deficiency; creatine deficiency syndromes; co-enzyme Q10 deficiency; complex I deficiency; complex II deficiency; complex III deficiency;

complex IV deficiency; complex V deficiency; COX deficiency; chronic progressive external ophthalmoplegia syndrome; CPT I deficiency; CPT II deficiency; glutaric aciduria type II; Kearns-Sayre syndrome; lactic acidosis; long-chain acyl-CoA dehydrogenase deficiency; Leigh disease or syndrome; lethal infantile cardiomyopathy; Luft disease; glutaric aciduria type II; medium-chain acyl-CoA dehydrogenase deficiency; myoclonic epilepsy and ragged-red fiber syndrome; mitochondrial cytopathy; mitochondrial recessive ataxia syndrome; mitochondrial DNA depletion syndrome; myoneurogastrointestinal disorder and encephalopathy; Pearson syndrome; pyruvate dehydrogenase deficiency; pyruvate carboxylase deficiency; POLG mutations; medium/short-chain 3-hydroxyacyl-CoA dehydrogenase deficiency; very long-chain acyl-CoA dehydrogenase deficiency; and age-dependent decline in cognitive function and muscle strength.

19. A pharmaceutical composition comprising a compound of formula (I) as defined in any one of claims 1 to 14, a tautomer thereof, or a pharmaceutically acceptable salt of said compound or tautomer, together with one or more pharmaceutically acceptable excipients.