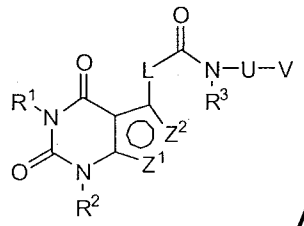
WE CLAIM:

1. A compound of the formula (I)



(I)

or a pharmaceutically acceptable salt thereof,

wherein,

$R^1$ and $R^2$ , which may be the same or different, are independently selected from hydrogen, substituted or unsubstituted alkyl, haloalkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, arylalkyl, $(CR^xR^y)_nOR^x$, $COR^x$, $COOR^x$, $CONR^xR^y$, $(CH_2)_nNR^xR^y$, $(CH_2)_nCHR^xR^y$ and $(CH_2)_nNHCOR^x$;

$R^3$ is selected from hydrogen, substituted or unsubstituted alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, and cycloalkenyl;

L is a linker selected from -$(CR^xR^y)_n$-, -O-$(CR^xR^y)_n$-, -C(O)-, -$NR^x$-, -$S(O)_mNR^x$-, -$NR^x(CR^xR^y)_n$- and -$S(O)_mNR^x(CR^xR^y)_n$;

$Z_1$ and $Z_2$ are independently sulfur or $CR^a$; with a proviso that one of $Z_1$ or $Z_2$ is always sulfur and other is $CR^a$;

$R^a$ is selected from hydrogen, cyano, halogen, substituted or unsubstituted alkyl, haloalkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, $OR^x$, $(CR^xR^y)_nOR^x$, $COR^x$, $COOR^x$, $CONR^xR^y$, $S(O)_mNR^xR^y$, $NR^xR^y$, $NR^x(CR^xR^y)_nOR^x$, $(CH_2)_nNR^xR^y$, $(CH_2)_nCHR^xR^y$, $NR^x(CR^xR^y)_nCONR^xR^y$, $(CH_2)_nNHCOR^x$, $(CH_2)_nNH(CH_2)_nSO_2R^x$, $(CH_2)_nNHSO_2R^x$, $SR^x$ and $OR^x$;

U is selected from substituted or unsubstituted aryl, substituted or unsubstituted five membered heterocycles selected from the group consisting of thiazole, isothiazole, oxazole, isoxazole, thiadiazole, oxadiazole, pyrazole, imidazole, furan, thiophene, pyrroles, 1,2,3-triazoles, and 1, 2, 4-triazole, or substituted or unsubstituted six membered heterocycle selected from the group consisting of pyrimidine, pyridine and pyridazine;

V is selected from hydrogen, cyano, nitro, $-NR^xR^y$, halogen, hydroxyl, substituted or unsubstituted alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, haloalkyl, haloalkoxy, cycloalkylalkoxy, aryl, arylalkyl, biaryl, heteroaryl, heteroarylalkyl, heterocyclic ring and heterocyclylalkyl, $-C(O)OR^x$, $-OR^x$, $-C(O)NR^xR^y$, $-C(O)R^x$, and $-SO_2NR^xR^y$; or U and V together may form an optionally substituted 3 to 7 membered saturated or unsaturated cyclic ring that may optionally include one or more heteroatoms selected from O, S and N;

at each occurrence, $R^x$ and $R^y$ are independently selected from hydrogen, hydroxyl, halogen, substituted or unsubstituted alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, aryl, arylalkyl, heteroaryl, heteroarylalkyl, heterocyclic ring and heterocyclylalkyl; and

at each occurrence, 'm' and 'n' are independently selected from 0 to 2, both inclusive.

2. The compound according to claim 1 wherein L is $CH_2$.

3. The compound according to claims 1 to 2, wherein $R^1$ and $R^2$ are $(C_1\text{-}C_4)$alkyl.

4. The compound according to claim 3, wherein $(C_1\text{-}C_4)$alkyl is methyl.

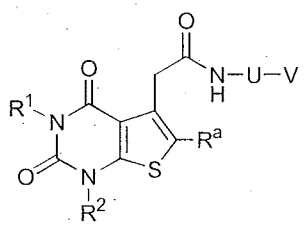
5. The compound according to any of claims 1 to 4, wherein $R^3$ is hydrogen.

6. The compound according to any of claims 1 to 5, wherein U is thiazole, imidazole, isoxazole, pyrazole, thiadiazole or pyrimidine.

7. The compound according to any of claims 1 to 6, wherein V is substituted or unsubstituted aryl.

8. The compound according to claim 7, wherein aryl is phenyl.

9. The compound of claim 1 having the formula (Ia):




(Ia)

or a pharmaceutically acceptable salt thereof,

wherein $R^1$, $R^2$, $R^a$, U and V are as defined in claim 1.

10. The compound according to claim 9, wherein $R^1$ and $R^2$ are $(C_1\text{-}C_4)$alkyl.

11. The compound according to claim 10, wherein $(C_1\text{-}C_4)$alkyl is methyl.

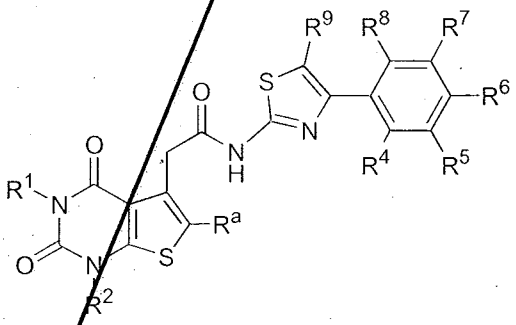
12. The compound according to any of claims 9 to 11, wherein $R^a$ is hydrogen or $(C_1\text{-}C_4)$alkyl.

13. The compound according to any of claims 9 to 12, wherein U is thiazole, imidazole, isoxazole, pyrazole, thiadiazole or pyrimidine.

14. The compound according to any of claims 9 to 13, wherein V is substituted or unsubstituted aryl.

15. The compound according to claim 14, wherein aryl is phenyl.

16. The compound according to claim 1 having the structure:



(Ic),

or a pharmaceutically acceptable salt thereof,

wherein $R^1$, $R^2$ and $R^a$, which may be the same or different, are each independently hydrogen or $(C_1\text{-}C_4)$alkyl;

$R^4$, $R^5$, $R^6$, $R^7$, $R^8$ and $R^9$, which may be same or different, are each independently selected from the group comprising of hydrogen, halogen, cyano, hydroxyl, nitro, amino, substituted or unsubstituted alkyl, alkoxy, haloalkyl, haloalkoxy, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkylalkoxy, aryl, arylalkyl, biaryl, heteroaryl, heteroarylalkyl, heterocyclic ring and heterocyclylalkyl.

17. The compound according to claim 16, wherein $R^1$ and $R^2$ are $(C_1\text{-}C_4)$alkyl.

18. The compound according to claim 17, wherein ($C_1$-$C_4$)alkyl is methyl.

19. The compound according to any of claims 16 to 18, wherein $R^4$ and $R^5$ are independently selected from the group consisting of hydrogen, fluoro, trifluoromethyl and trifluoromethoxy.

20. The compound according to any of claims 16 to 19, wherein $R^6$ and $R^7$ are independently selected from the group consisting of hydrogen, fluoro, trifluoromethyl and trifluoromethoxy.

21. The compound according to any of claims 16 to 20, wherein $R^8$ and $R^9$ are hydrogen.

22. A compound selected from:

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-[4-(trifluoromethyl)-1,3-thiazol-2-yl]acetamide;

N-[4-(4-Chlorophenyl)-1,3-thiazol-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-[4-(4-isobutylphenyl)-1,3-thiazol-2-yl]acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[4-fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[4-fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[2-fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[3-fluoro-5-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[2-fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[4-fluoro-3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[3-fluoro-4-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

N-[4-(3,4-Dichlorophenyl)-1,3-thiazol-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

N-{4-[2,4-Difluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

[N-{4-[2,4-Difluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide]sodium; and

N-{4-[2,3-Difluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

*N*-{4-[3,5-Difluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(4-*tert*-Butylphenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-(Trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(4-Chlorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(3,4-Dichlorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(2,3-Difluorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(2,4-Difluorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[4-Fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

*N*-{4-[4-Fluoro-3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[2,4-Difluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(3-Trifluoromethoxyphenyl)-1*H*-imidazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1*H*-imidazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide; and

*N*-[4-(4-Cyanophenyl)-1,3-thiazol-2-yl]-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

*N*-[4-(2,4-Difluoro-3-trifluoromethyl)phenyl)-1,3-thiazol-2-yl]-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[4-(Difluoromethoxy)-3,5-difluorophenyl]-1,3-thiazol-2-yl}-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3,5-Difluoro-4-(2,2,2-trifluoroethoxy)phenyl]-1,3-thiazol-2-yl}-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-6-propyl-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl) acetamide;

*N*-{4-[4-Difluoromethoxy-3,5-difluorophenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-6-propyl-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl) acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(6-isopropyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[3-(4-Chlorophenyl)isoxazol-5-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[5-(4-Bromophenyl)isoxazol-3-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[1-(4-Bromophenyl)-1*H*-pyrazol-3-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[3-(4-Chlorophenyl)-1*H*-pyrazol-5-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[5-(4-Bromophenyl)-1,3,4-thiadiazol-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(4-Bromophenyl)pyrimidin-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-[4-(4-isobutylphenyl)-1,3-thiazol-2-yl]acetamide; and

*N*-[4-(4-Chlorophenyl)-1,3-thiazol-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-[4-(3-trifluoromethyl)phenyl]-1,3-thiazol-2-yl]acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-[4-(4-trifluoromethyl)phenyl]-1,3-thiazol-2-yl]acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-{4-[3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-{4-[4-fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-{4-[3-fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-{4-[2-fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-{4-[3-fluoro-4-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

*N*-[4-(3,4-Dichlorophenyl)-1,3-thiazol-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-{4-[3-fluoro-5-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)-*N*-{4-[4-fluoro-3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

*N*-{4-[2,3-Difluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[2,4-Difluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)acetamide;

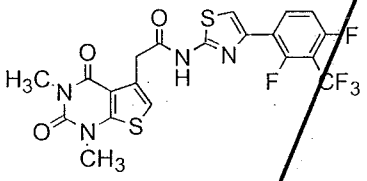
*N*-{4-[3,5-difluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[4-(Difluoromethoxy)-3,5-difluorophenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)acetamide; and

*N*-{4-[3,5-Difluoro-4-(2,2,2-trifluoro-ethoxy)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[3,4-*d*]pyrimidin-5-yl)acetamide;

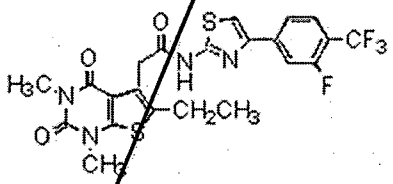
or a pharmaceutically acceptable salt thereof.

23. A compound having formula

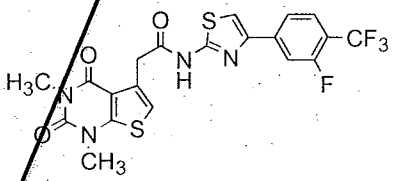


or a pharmaceutically acceptable salt thereof.

24. A compound having formula

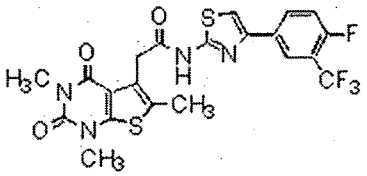


25. A compound of formula



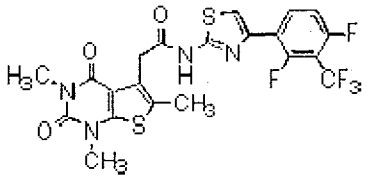
or a pharmaceutically acceptable salt thereof.

26. A compound of formula



or a pharmaceutically acceptable salt thereof.

27. The compound of formula



or a pharmaceutically acceptable salt thereof.

28. A pharmaceutical composition comprising one or more compounds selected from the compounds of any one of claims 1 to 27, and one or more pharmaceutically acceptable excipients, carriers, diluents or mixture thereof.

29. Use of a compound according to any of claims 1 to 27 for the manufacture of medicament for treatment of disease or condition associated with TRPA1 function in a subject in need thereof.

30. The use of a compound according to claim 29, for the manufacture of medicament for the treatment of the symptoms of a disease or condition associated with TRPA1 function which is selected from pain, chronic pain, complex regional pain syndrome, neuropathic pain, postoperative pain, rheumatoid arthritic pain, osteoarthritic pain, back pain, visceral pain, cancer pain, algesia, neuralgia, migraine, neuropathies, diabetic neuropathy, sciatica, HIV-related neuropathy, post-herpetic neuralgia, fibromyalgia, nerve injury, ischaemia, neurodegeneration, stroke, post stroke pain, multiple sclerosis, respiratory diseases, asthma, cough, COPD, inflammatory disorders, oesophagitis, gastroeosophagal reflux disorder (GERD), irritable bowel syndrome, inflammatory bowel disease, pelvic hypersensitivity, urinary incontinence, cystitis, burns, psoriasis, eczema, emesis, stomach duodenal ulcer and pruritus.

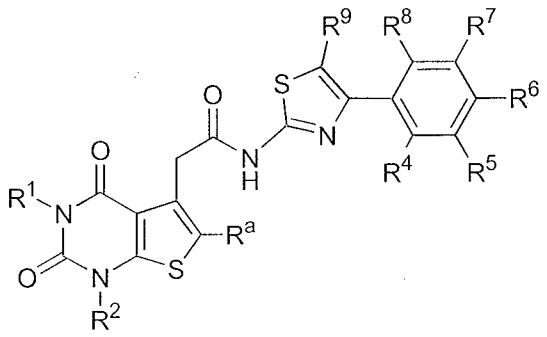
31. The use of a compound according to claim 30 for the manufacture of the medicament for the treatment ofchronic pain.

32. The use of a compound according to claim 30 for the manufacture of the medicament for the treatment of neuropathic pain.

33. The use of a compound according to claim 30 for the manufacture of the medicament for the treatment of rheumatoid arthritic pain or osteoarthritic pain.

WE CLAIM:

1. A compound having the structure:



(Ic),

or a pharmaceutically-acceptable salt thereof,

wherein $R^1$, $R^2$ and $R^a$, which may be the same or different, are each independently hydrogen or ($C_1$-$C_4$)alkyl;

$R^4$, $R^5$, $R^6$, $R^7$, $R^8$ and $R^9$, which may be same or different, are each independently selected from the group comprising of hydrogen, halogen, cyano, ($C_1$-$C_8$)alkyl, ($C_1$-$C_8$)alkoxy, halo($C_1$-$C_8$)alkyl and halo($C_1$-$C_8$)alkoxy.

2. The compound according to claim 1, wherein $R^1$ and $R^2$ are ($C_1$-$C_4$)alkyl.

3. The compound according to claim 2, wherein ($C_1$-$C_4$)alkyl is methyl.

4. The compound according to any of claims 1 to 3, wherein $R^4$ and $R^5$ are independently selected from the group consisting of hydrogen, fluoro, trifluoromethyl and trifluoromethoxy.

5. The compound according to any of claims 1 to 4, wherein $R^6$ and $R^7$ are independently selected from the group consisting of hydrogen, fluoro, trifluoromethyl and trifluoromethoxy.

6. The compound according to any of claims 1 to 5, wherein $R^8$ and $R^9$ are hydrogen.

7. A compound selected from:

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-[4-(trifluoromethyl)-1,3-thiazol-2-yl]acetamide;

N-[4-(4-Chlorophenyl)-1,3-thiazol-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-[4-(4-isobutylphenyl)-1,3-thiazol-2-yl]acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[4-fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[3-fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[2-fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[3-fluoro-5-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[2-fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[4-fluoro-3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

2-(1,3-Dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)-N-{4-[3-fluoro-4-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}acetamide;

N-[4-(3,4-Dichlorophenyl)-1,3-thiazol-2-yl]-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

N-{4-[2,4-Difluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

[N-{4-[2,4-Difluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide]sodium; and

N-{4-[2,3-Difluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

*N*-{4-[3,5-Difluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(4-*tert*-Butylphenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-(Trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(4-Chlorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(3,4-Dichlorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(2,3-Difluorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(2,4-Difluorophenyl)-1,3-thiazol-2-yl]-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[4-Fluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

*N*-{4-[4-Fluoro-3-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethoxy)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[2,4-Difluoro-3-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3,6-trimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-[4-(4-Cyanophenyl)-1,3-thiazol-2-yl]-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-d]pyrimidin-5-yl)acetamide;

*N*-[4-(2,4-Difluoro-3-trifluoromethyl)phenyl)-1,3-thiazol-2-yl]-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[4-(Difluoromethoxy)-3,5-difluorophenyl]-1,3-thiazol-2-yl}-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

*N*-{4-[3,5-Difluoro-4-(2,2,2-trifluoroethoxy)phenyl]-1,3-thiazol-2-yl}-2-(6-ethyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

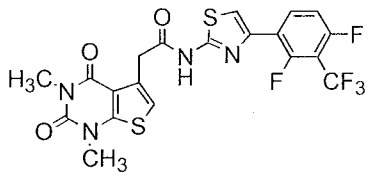
*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-6-propyl-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl) acetamide;

*N*-{4-[4-Difluoromethoxy-3,5-difluorophenyl]-1,3-thiazol-2-yl}-2-(1,3-dimethyl-2,4-dioxo-6-propyl-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl) acetamide; and

*N*-{4-[3-Fluoro-4-(trifluoromethyl)phenyl]-1,3-thiazol-2-yl}-2-(6-isopropyl-1,3-dimethyl-2,4-dioxo-1,2,3,4-tetrahydrothieno[2,3-*d*]pyrimidin-5-yl)acetamide;

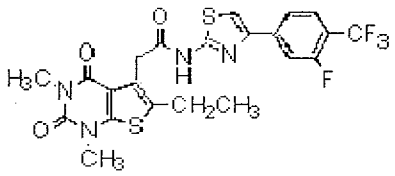
or a pharmaceutically acceptable salt thereof.

8. A compound having formula



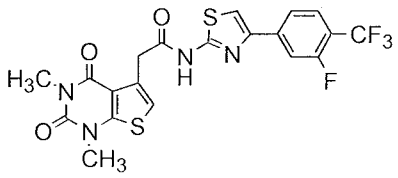
or a pharmaceutically acceptable salt thereof.

9. A compound having formula



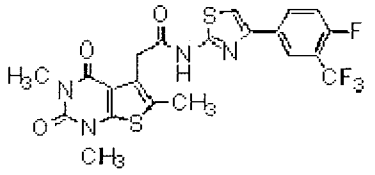
or a pharmaceutically acceptable salt thereof.

10. A compound of formula



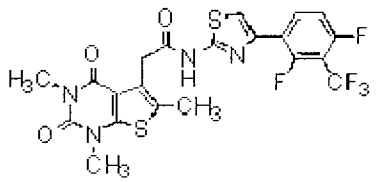
or a pharmaceutically acceptable salt thereof.

11. A compound of formula



or a pharmaceutically acceptable salt thereof.

12. A compound of formula



or a pharmaceutically acceptable salt thereof.

13. A pharmaceutical composition comprising one or more compounds selected from the compounds of any one of claims 1 to 12, and one or more pharmaceutically acceptable excipients, carriers, diluents or mixture thereof.

14. The use of a compound according to claim 1 to 12, for the manufacture of medicament for the treatment of the symptoms of a disease or condition associated with TRPA1 function which is selected from pain, chronic pain, complex regional pain syndrome, neuropathic pain, postoperative pain, rheumatoid arthritic pain, osteoarthritic pain, back pain, visceral pain, cancer pain, algesia, neuralgia, migraine, neuropathies, diabetic neuropathy, sciatica, HIV-related neuropathy, post-herpetic neuralgia, fibromyalgia, nerve injury, ischaemia, neurodegeneration, stroke, post stroke pain, multiple sclerosis, respiratory diseases, asthma, cough, COPD, inflammatory disorders, oesophagitis, gastroeosophagal reflux disorder (GERD), irritable bowel syndrome, inflammatory bowel disease, pelvic hypersensitivity, urinary incontinence, cystitis, burns, psoriasis, eczema, emesis, stomach duodenal ulcer and pruritus.

15. The use of a compound according to claim 14 for the manufacture of the medicament for the treatment of chronic pain.

16. The use of a compound according to claim 14 for the manufacture of the medicament for the treatment of neuropathic pain.

17. The use of a compound according to claim 14 for the manufacture of the medicament for the treatment of rheumatoid arthritic pain or osteoarthritic pain.