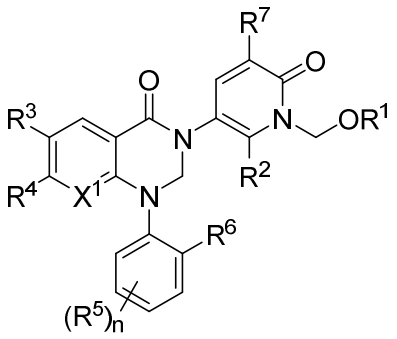
CLAIMS

1. A compound of formula (I):



(I)

or a pharmaceutically acceptable salt thereof,

wherein:

X^1 is N or CH;

R^1 is $-P(O)(OH)_2$;

R^2 is hydrogen, $-(C_{1-6})$alkyl, $-NR^aR^b$, halo, or $-(C_{1-6})$haloalkyl;

each of R^3 and R^4 is independently hydrogen, halo, cyano, $-NR^aR^b$, $-(C_{1-6})$alkyl, $-(C_{1-6})$haloalkyl, $-O-(C_{1-6})$alkyl, or $-O-(C_{1-6})$haloalkyl;

each R^5 is independently halo, $-(C_{1-6})$alkyl, $-O(C_{1-6})$alkyl, or $-O(C_{1-6})$haloalkyl;

R^6 is hydrogen or $-(C_{1-6})$alkyl;

R^7 is hydrogen, $-(C_{1-6})$alkyl, halo, or $-(C_{1-6})$haloalkyl;

each of R^a and R^b is independently hydrogen or $-(C_{1-6})$alkyl; and

n is 0, 1, or 2.

2. The compound according to claim 1, wherein X^1 is N.
3. The compound according to claim 1, wherein X^1 is CH.
4. The compound according to any one of claims 1-3, wherein R^2 is $-(C_{1-6})$alkyl.
5. The compound according to any one of claims 1-4, wherein each of R^3 and R^4 is independently hydrogen, halo, or $-(C_{1-6})$haloalkyl.
6. The compound according to claim 5, wherein each of R^3 and R^4 is hydrogen, -Cl, or $-CF_3$.
7. The compound according to any one of claims 1-3, wherein one of R^3 and R^4 is hydrogen and the other of R^3 and R^4 is halo or $-(C_{1-6})$haloalkyl.
8. The compound according to claim 7, wherein one of R^3 and R^4 is hydrogen and the other of R^3 and R^4 is -Cl or $-CF_3$.

9. The compound according to any one of claims 1-8, wherein each R^5 is independently halo or -O(C_{1-6})haloalkyl.
10. The compound according to claim 9, wherein each R^5 is independently -F or -OCF_3.
11. The compound according to any one of claims 1-10, wherein R^6 is –(C_{1-6})alkyl.
12. The compound according to claim 11, wherein R^6 is -CH_3, -CH_2CH_3, or -$CH(CH_3)_2$.
13. The compound according to claim 1, wherein:

X^1 is N;

R^1 is -$PO(OH)_2$;

R^2 is -CH_3;

one of R^3 and R^4 is hydrogen and the other of R^3 and R^4 is halo or –(C1-6)haloalkyl;

R^5 is halo or –O(C_{1-6})haloalkyl;

R^6 is –(C_{1-6})alkyl;

R^7 is hydrogen; and

n is 1.

14. The compound according to any one of claims 1 to 13, being a pharmaceutically acceptable salt of the compound of formula (I), wherein:

R^1 is -$P(O)(OH)O^-M^+$, -$PO(O^-)_2$•$2M^+$, or -$PO(O^-)_2$•D^{2+};

each M^+ is independently a pharmaceutically acceptable monovalent cation; and

D^{2+} is a pharmaceutically acceptable divalent cation.

15. A compound selected from the group consisting of:

(5-(1-(4-Fluoro-2-methylphenyl)-4-oxo-6-(trifluoromethyl)-1,4-dihydroquinazolin-3(2H)-yl)-6-methyl-2-oxopyridin-1(2H)-yl)methyl dihydrogen phosphate;

(5-(1-(4-fluoro-2-methylphenyl)-4-oxo-7-(trifluoromethyl)-1,4-dihydroquinazolin-3(2H)-yl)-6-methyl-2-oxopyridin-1(2H)-yl)methyl dihydrogen phosphate;

(5-(6-chloro-1-(4-fluoro-2-methylphenyl)-4-oxo-1,4-dihydroquinazolin-3(2H)-yl)-6-methyl-2-oxopyridin-1(2H)-yl)methyl dihydrogen phosphate; and

(6-methyl-5-(1-(2-methyl-4-(trifluoromethoxy)phenyl)-4-oxo-6-(trifluoromethyl)-1,4-dihydropyrido[2,3-d]pyrimidin-3(2H)-yl)-2-oxopyridin-1(2H)-yl)methyl dihydrogen phosphate,

or a pharmaceutically acceptable salt thereof.

16. A pharmaceutical composition comprising a compound as defined in any one of claims 1-15, and a pharmaceutically acceptable excipient.
17. The pharmaceutical composition according to claim 16, formulated for intravenous administration.
18. ~~A method of inhibiting a Na$_v$1.8 voltage-gated sodium channel in a subject in need thereof, the method comprising administering to the subject a compound or pharmaceutically acceptable salt thereof or tautomer thereof according to any one of claims 1 to 15, or a pharmaceutical composition according to claim 16 or claim 17.~~
19. ~~A method of treatment of pain or a pain-associated disease, disorder, or condition in a subject in need thereof, the method comprising administering to the subject a therapeutically effective amount of a compound according to any one of claims 1 to 15 or a pharmaceutically acceptable salt thereof and/or tautomer thereof, or a pharmaceutical composition according to claim 16 or claim 17.~~
20. ~~The method according to claim 19, wherein the pain is acute pain or chronic pain.~~
21. ~~The method according to claim 19, wherein the pain or pain-associated disease, disorder, or condition is pain caused by trauma; pain caused by iatrogenic medical or dental procedures; or pre-operative or post-operative associated pain.~~
22. ~~The method according to claim 19, wherein the pain or pain-associated disease, disorder, or condition is neuropathic pain, nociceptive pain, inflammatory pain, musculoskeletal pain, visceral pain, or idiopathic pain.~~
23. ~~The method according to claim 19, wherein the pain or pain-associated disease, disorder or condition is neuropathic pain or chronic neuropathic pain selected from small fiber neuropathy, small fiber-mediated diabetic neuropathy, idiopathic small fiber neuropathy, painful diabetic neuropathy or polyneuropathy.~~
24. ~~The method according to claim 19, wherein the pain or pain associated disease, disorder, or condition is inflammatory pain selected from osteoarthritis, chronic osteoarthritis pain, or chronic inflammatory demyelinating polyneuropathy.~~
25. ~~A method of treatment of atrial fibrillation in a subject in need thereof, the method comprising administering to the subject a therapeutically effective amount of a compound according to any one of claims 1 to 15 or a pharmaceutically acceptable salt thereof and/or tautomer thereof, or a pharmaceutical composition according to claim 16 or claim 17.~~
26. ~~The method according to any one of claims 18 to 25, wherein the subject is human.~~

~~27.~~18. A compound or pharmaceutically acceptable salt thereof or tautomer thereof according to any one of claims 1 to 15, or a pharmaceutical composition according to claim 16 or claim 17 for use in therapy.

~~28.~~19. A compound or pharmaceutically acceptable salt thereof or tautomer thereof according to any one of claims 1 to 15, or a pharmaceutical composition according to claim 16 or claim 17 for use in treatment of pain or a pain-associated disease, disorder, or condition.

~~29.~~20. The compound or pharmaceutically acceptable salt thereof or tautomer thereof, or pharmaceutical composition according to claim ~~28~~19, wherein the pain is acute pain or chronic pain.

~~30.~~21. The compound or pharmaceutically acceptable salt thereof or tautomer thereof, or pharmaceutical composition according to claim ~~28~~19, wherein the pain or pain-associated disease, disorder, or condition is pain caused by trauma; pain caused by iatrogenic medical or dental procedures; or pre-operative or post-operative associated pain.

~~31.~~22. The compound or pharmaceutically acceptable salt thereof or tautomer thereof, or pharmaceutical composition according to claim ~~28~~19, wherein the pain or pain-associated disease, disorder, or condition is neuropathic pain, nociceptive pain, inflammatory pain, musculoskeletal pain, visceral pain, or idiopathic pain.

~~32.~~23. The compound or pharmaceutically acceptable salt thereof or tautomer thereof, or pharmaceutical composition according to claim ~~28~~19, wherein the pain or pain-associated disease, disorder or condition is neuropathic pain or chronic neuropathic pain selected from small fiber neuropathy, small fiber-mediated diabetic neuropathy, idiopathic small fiber neuropathy, painful diabetic neuropathy or polyneuropathy.

~~33.~~24. The compound or pharmaceutically acceptable salt thereof or tautomer thereof, or pharmaceutical composition according to claim ~~28~~19, wherein the pain or pain associated disease, disorder, or condition is inflammatory pain selected from osteoarthritis, chronic osteoarthritis pain, or chronic inflammatory demyelinating polyneuropathy.

~~34.~~25. A compound or pharmaceutically acceptable salt thereof or tautomer thereof according to any one of claims 1 to 15, or a pharmaceutical composition according to claim 16 or claim 17 for use in treatment of atrial fibrillation.

~~35. Use of a compound or pharmaceutically acceptable salt thereof or tautomer thereof according to any one of claims 1 to 15, or a pharmaceutical composition according to~~

~~claim 16 or claim 17 in the manufacture of a medicament for treatment of pain or a pain-associated disease, disorder, or condition.~~

~~36. The use according to claim 35, wherein the pain is acute pain or chronic pain.~~

~~37. The use according to claim 35, wherein the pain or pain-associated disease, disorder, or condition is pain caused by trauma; pain caused by iatrogenic medical or dental procedures; or pre-operative or post-operative associated pain.~~

~~38. The use according to claim 35, wherein the pain or pain-associated disease, disorder, or condition is neuropathic pain, nociceptive pain, inflammatory pain, musculoskeletal pain, visceral pain, or idiopathic pain.~~

~~39. The use according to claim 35, wherein the pain or pain-associated disease, disorder or condition is neuropathic pain or chronic neuropathic pain selected from small fiber neuropathy, small fiber-mediated diabetic neuropathy, idiopathic small fiber neuropathy, painful diabetic neuropathy or polyneuropathy.~~

~~40. The use according to claim 35, wherein the pain or pain associated disease, disorder, or condition is inflammatory pain selected from osteoarthritis, chronic osteoarthritis pain, or chronic inflammatory demyelinating polyneuropathy.~~

~~Use of a compound or pharmaceutically acceptable salt thereof or tautomer thereof according to any one of claims 1 to 15, or a pharmaceutical composition according to claim 16 or claim 17 in the manufacture of a medicament for treatment of atrial fibrillation~~