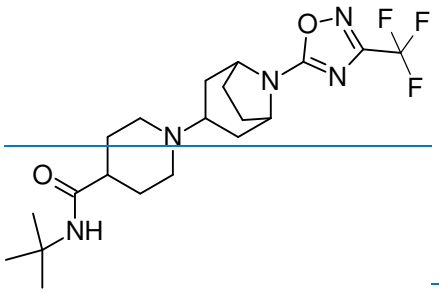
CLAIMS

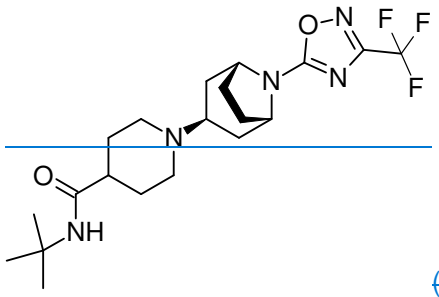
1. A compound of the formula (1):



(1);

or a salt thereof.

2. A compound according to claim 1 of the formula (2):



(2);

or a salt thereof.

3. A salt of a compound according to claim 1 or claim 2.

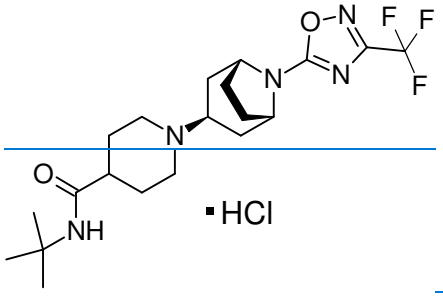
4. A pharmaceutically acceptable salt of a compound according to claim 1 or claim 2.

5. An acid addition salt of a compound according to claim 1 or claim 2.

6. A hydrochloride salt of a compound according to claim 1 or claim 2.

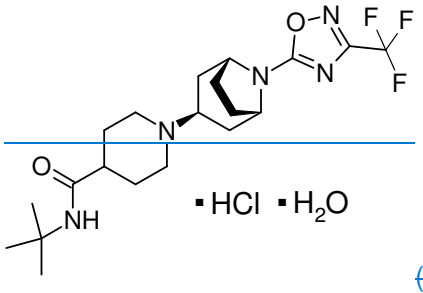
7. A monohydrochloride salt of a compound according to claim 1 or claim 2.

8. The compound according to claim 1 which is a compound of formula (2b):



~~(2b).~~

~~9. The compound according to claim 1 which is a compound of formula (2c):~~



~~(2c).~~

~~10. A pharmaceutical composition comprising a compound as defined in any one of claims 1 to 9 and a pharmaceutically acceptable excipient.~~

~~11. The compound according to any one of claims 1 to 9 having muscarinic M_1 and M_4 receptor agonist activity.~~

~~12. The compound or composition according to any one of claims 1 to 10 for use in medicine.~~

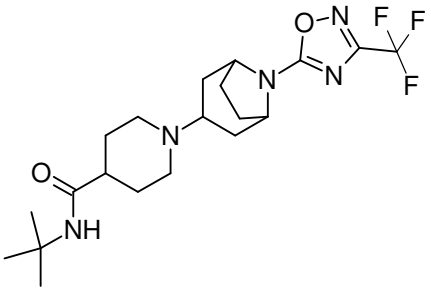
~~13. The compound or composition according to any one of claims 1 to 10 for use in the treatment of a cognitive disorder or psychotic disorder or for the treatment or lessening the severity of acute, chronic, neuropathic, or inflammatory pain.~~

~~14. A compound for use according to claim 13 wherein the disorder is Alzheimer's disease.~~

~~15. A compound for use according to claim 13 wherein the disorder is dementia with Lewy bodies.~~

~~16. A compound for use according to claim 13 wherein the disorder is schizophrenia.~~

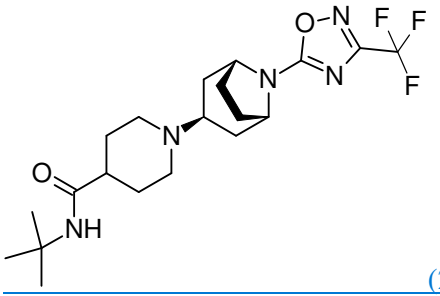
1. A compound of formula (1):



(1);

or a salt thereof.

2. The compound according to claim 1, which is a compound of formula (2):



(2);

or a salt thereof.

3. A salt of the compound according to claim 1.

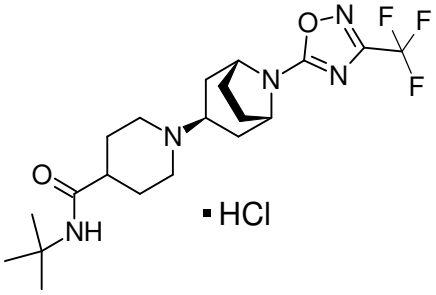
4. A pharmaceutically acceptable salt of the compound according to claim 1.

5. An acid addition salt of the compound according to claim 1.

6. A hydrochloride salt of the compound according to claim 1.

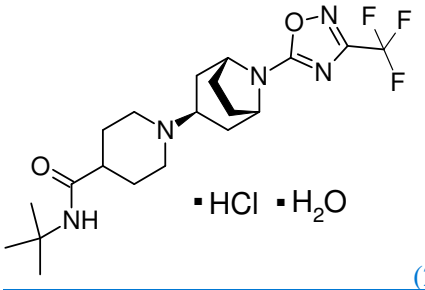
7. A monohydrochloride salt of the compound according to claim 1.

8. The compound according to claim 1, which is a compound of formula (2b):



(2b).

9. The compound according to claim 1, which is a compound of formula (2c):



(2c).

10. A pharmaceutical composition comprising the compound according to claim 1, or a salt thereof, and a pharmaceutically acceptable excipient.

11. Use of the compound of claim 1, or a salt thereof, in the manufacture of a medicament for treating a disorder selected from a cognitive disorder and a psychotic disorder in a subject.

12. The use according to claim 11, wherein the disorder is Alzheimer's disease.

13. The use according to claim 11, wherein the disorder is dementia with Lewy bodies.

14. The use according to claim 11, wherein the disorder is schizophrenia.

15. A salt of the compound according to claim 2.

16. A pharmaceutically acceptable salt of the compound according to claim 2.

17. An acid addition salt of the compound according to claim 2.

18. A hydrochloride salt of the compound according to claim 2.

19. A monohydrochloride salt of the compound according to claim 2.

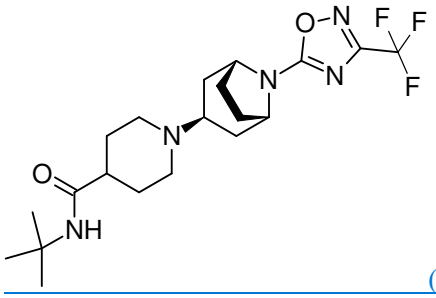
20. Use of the compound of claim 1, or a salt thereof, in the manufacture of a medicament for treating or lessening the severity of acute pain, chronic pain, neuropathic pain, or inflammatory pain in a subject.

21. A pharmaceutical composition comprising the compound according to claim 2, or a salt thereof, and a pharmaceutically acceptable excipient.

22. The use according to claim 13, which is a use for treating a cognitive disorder.

23. The use according to claim 22, wherein the cognitive disorder is a cognitive disorder associated with Alzheimer's disease.

24. A compound of formula (2):



(2).

25. A pharmaceutical composition comprising the compound according to claim 24, and a pharmaceutically acceptable excipient.

26. Use of the compound according to claim 24 in the manufacture of a medicament for treating a disorder selected from a cognitive disorder and a psychotic disorder in a subject.

27. The use according to claim 26, wherein the disorder is a cognitive disorder.

28. The use according to claim 27, wherein the cognitive disorder is a cognitive disorder associated with Alzheimer's disease.

29. The use according to claim 26, wherein the disorder is Alzheimer's disease.

30. The use according to claim 26, wherein the disorder is dementia with Lewy bodies.

31. The use according to claim 26, wherein the disorder is schizophrenia.