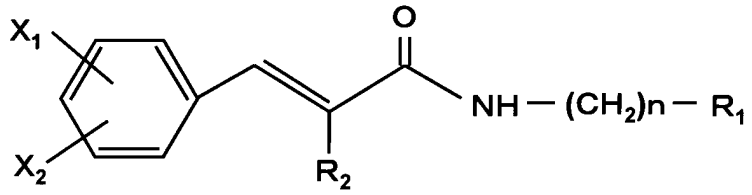
Claims

1. A compound or a pharmaceutically acceptable salt or hydrate thereof, wherein the compound is represented by the following general formula (I):



(I)

wherein n stands for an integer of from 1 to 4;

X_1 and X_2, which are identical or different, stand for a hydrogen, a fluorine, a trifluoromethyl, or a carboxy, and either one of X_1 and X_2 stands for a substituent other than a hydrogen;

R_1 stands for:

- an imidazolyl substituted with alkyl having 2 to 6 carbon atoms or phenyl;
- a pyrrolyl which may be substituted with alkyl having 1 to 4 carbon atoms;
- a phenyl substituted with amino, isoxazolyl or morpholino;
- a phenyl substituted with thiomorpholino which may be substituted with oxo;
- a thiomorpholino which may be substituted with one or two oxos; or
- any one of substituents selected from guanidino, indazolyl, and cyclohexylamino; and

R_2 stands for a hydrogen, a cyano or an alkyl having 1 to 4 carbon atoms.

2. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 1, wherein R_2 is a hydrogen, and wherein either one of X_1 and X_2 is a hydrogen, and the other is a fluorine.

3. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 2, wherein R_1 is an imidazolyl substituted with alkyl having 2 to 6 carbon atoms or phenyl.

4. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 2, wherein R_1 is a pyrrolyl which may be substituted with alkyl having 1 to 4 carbon atoms.

5. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 2, wherein R_1 is a phenyl substituted with amino, isoxazolyl, or morpholino.

6. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 2, wherein R_1 is a phenyl substituted with thiomorpholino which may be substituted with oxo.

7. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 2, wherein R_1 is a thiomorpholino which may be substituted with one or two oxos.

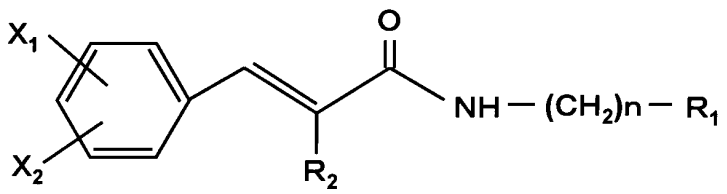
8. The compound or a pharmaceutically acceptable salt or hydrate thereof

according to claim 2, wherein R_1 is any one of substituents selected from guanidino, indazolyl, and cyclohexylamino.

9. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 1, which is selected from the group consisting of (*E*)-3-(4-fluorophenyl)-*N*-(3-thiomorpholinopropyl)-2-propenamide, (*E*)-3-(2-fluorophenyl)-*N*-(3-thiomorpholinopropyl)-2-propenamide, (*E*)-*N*-[3-(1,1-dioxo-1,4-thiazinan-4-yl)propyl]-3-(2-fluorophenyl)-2-propenamide, (*E*)-*N*-[3-(1,1-dioxo-1,4-thiazinan-4-yl)propyl]-3-(4-fluorophenyl)-2-propenamide, (*E*)-3-(4-fluorophenyl)-*N*-[3-(1-oxo-1,4-thiazinan-4-yl)propyl]-2-propenamide and (*E*)-3-(2-fluorophenyl)-*N*-[3-(1-oxo-1,4-thiazinan-4-yl)propyl]-2-propen-amide.

10. The compound or a pharmaceutically acceptable salt or hydrate thereof according to claim 1, which is selected from the group consisting of (*E*)-3-(4-fluorophenyl)-*N*-(3-thiomorpholinopropyl)-2-propenamide, (*E*)-3-(2-fluorophenyl)-*N*-(3-thiomorpholinopropyl)-2-propenamide, (*E*)-3-(4-fluorophenyl)-*N*-[3-(1-oxo-1,4-thiazinan-4-yl)propyl]-2-propenamide and (*E*)-3-(2-fluorophenyl)-*N*-[3-(1-oxo-1,4-thiazinan-4-yl)propyl]-2-propenamide.

11. A pharmaceutical agent, comprising, as an active ingredient, at least a compound, or salt or hydrate thereof, the salt or hydrate being pharmaceutically acceptable, wherein the compound is represented by the following general formula (I):



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wherein n stands for an integer of from 1 to 4;

X_1 and X_2, which are identical or different, stand for a hydrogen, a fluorine, a trifluoromethyl, or a carboxy, and either one of X_1 and X_2 stands for a substituent other than a hydrogen;

R_1 stands for:

- an imidazolyl which may be substituted with alkyl having 1 to 6 carbon atoms or phenyl;
- a pyrrolyl which may be substituted with alkyl having 1 to 4 carbon atoms;
- a phenyl substituted with amino, alkoxy having 2 to 4 carbon atoms, pyrazolyl, isoxazolyl or morpholino;
- a phenyl substituted with thiomorpholino which may be substituted with oxo;
- a thiomorpholino which may be substituted with one or two oxos; or
- any one of substituents selected from carboxy, guanidino, benzo-imidazolyl, indazolyl, pyrazolyl, triazolyl, pyridyl, pyrrolidinyl, hexamethyleneimino, morpholino, and cyclohexylamino; and

R_2 stands for a hydrogen, a cyano or an alkyl having 1 to 4 carbon atoms.

12. The pharmaceutical agent according to claim 11, which is an analgesic.

13. The pharmaceutical agent according to claim 12, wherein the analgesic is a therapeutic agent for chronic pains.

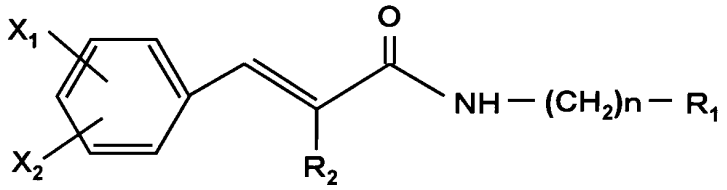
14. The pharmaceutical agent according to claim 13, wherein the therapeutic agent for chronic pains is a therapeutic agent for lumbago, arthralgia, or neuropathic pains.

15. The pharmaceutical agent according to claim 12, wherein the analgesic is a therapeutic agent for neuropathic pains.

16. The pharmaceutical agent according to any one of claims 11 to 15, which is an oral preparation.

17. The pharmaceutical agent according to any one of claims 11 to 15, which is an injectable preparation.

18. Use of a compound or a pharmaceutically acceptable salt or hydrate thereof in the manufacture of a pharmaceutical agent for the treatment of lumbago or arthralgia, wherein the compound is represented by the following general formula (I):



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wherein n stands for an integer of from 1 to 4;

X_1 and X_2, which are identical or different, stand for a hydrogen, a fluorine, a trifluoromethyl, or a carboxy, and either one of X_1 and X_2 stands for a substituent other than a hydrogen;

R_1 stands for:

- an imidazolyl which may be substituted with alkyl having 1 to 6 carbon atoms or phenyl;
- a pyrrolyl which may be substituted with alkyl having 1 to 4 carbon atoms;
- a phenyl substituted with amino, alkoxy having 1 to 4 carbon atoms, pyrazolyl, isoxazolyl or morpholino;
- a phenyl substituted with thiomorpholino which may be substituted with oxo;
- a thiomorpholino which may be substituted with one or two oxos; or
- any one of substituents selected from carboxy, guanidino, benzo-imidazolyl, indazolyl, pyrazolyl, triazolyl, pyridyl, pyrrolidinyl, hexamethyleneimino, morpholino, and cyclohexylamino; and

R_2 stands for a hydrogen, a cyano or an alkyl having 1 to 4 carbon atoms.