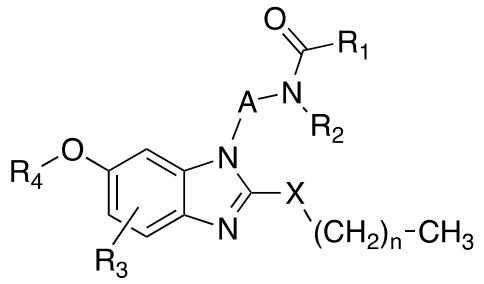
Claims

1. A COMPOUND characterized by having the general formula (I):



(I)

wherein

X is an oxygen atom;

A represents a linear alkyl group of C_{2-4} which may have one or more of its hydrogens replaced by an alkyl group selected from methyl, ethyl, propyl or isopropyl;

R_1 represents an alkyl C_{1-6} or cycloalkyl C_{3-6} group;

R_2 represents a hydrogen or an alkyl C_{1-3} group;

R_3 represents a hydrogen or halogen atom;

R_4 represents an alkyl C_{1-6} group;

n is 0 or 1.

2. THE COMPOUND, according to claim 1, characterized in that the compound of the general formula (I) is selected from the group consisting of:

N-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;

N-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)propionamide;

N-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)butyramide;

N-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclopropane carboxamide;

N-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclobutanecarboxamide;

N-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclopentane carboxamide;

N-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclohexane carboxamide;

N-(3-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;

N-(3-(2,6-dimethoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;

N-(2-(2,6-dimethoxy-1*H*-benzimidazole-1-yl)ethyl) acetamide;

N-(2-(2,6-dimethoxy-1*H*-benzimidazole-1-yl)ethyl)propionamide;

N-(2-(2,6-dimethoxy-1*H*-benzimidazole-1-yl)ethyl)butyramide;

N-(1-(2-Ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)propan-2-yl)acetamide;

2-Bromo-*N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;

N-(2-(5-bromo-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;

N-(2-(5-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;

N-(3-(5-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;

N-(3-(5-chloro-2,6-dimethoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;

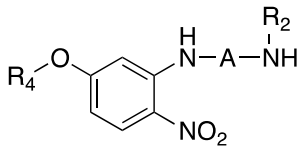
N-(2-(5-chloro-2,6-dimethoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;

N-(2-(5-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclopropanecarboxamide;

N-(2-(7-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide.

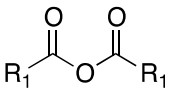
3. PROCESS FOR OBTAINING THE COMPOUND of the general formula (I) of claim 1, characterized in that it comprises the following steps:

(a) reacting the compound of formula (III)



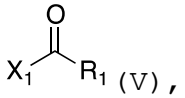
(III),

with a carboxylic acid anhydride of formula (IV)



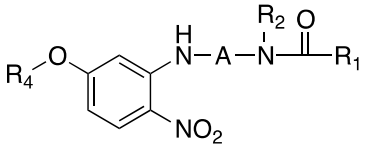
(IV);

or with a carboxylic acid halide of formula (V)



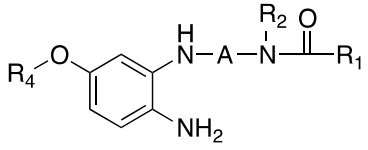
(V),

wherein R_1, R_2 and R_4 are as described for the compound of formula (I) and X_1 is a halogen selected from the group comprising chlorine and bromine, to provide a compound of formula (VI)



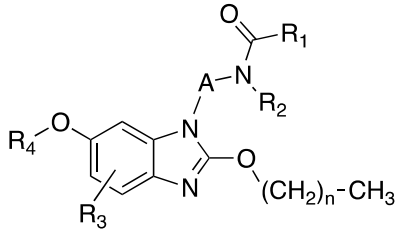
(VI),

(b) reacting the compound (VI) obtained in step (a) with a reducing agent to obtain the compound of the formula (VII)



(VII),

(c) reacting of the compound (VII) obtained in step (b) with a tetraalkylorthocarbonate selected from the group comprising the tetramethylorthocarbonate and tetraethyl orthocarbonate, to obtain the compound of formula (Ia):



(Ia),

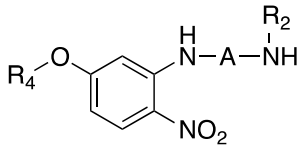
wherein R_3 corresponds to a hydrogen atom and "n" corresponds to zero or one;

(d) reacting the compound of formula (Ia) obtained in step (c)

with a halogenating agent selected from the group comprising N-bromosuccinimide, N-chlorosuccinimide and N-iodosuccinimide, to obtain the compound of formula (Ia), wherein R_3 is a halogen selected from the group consisting of bromine, chlorine and iodine.

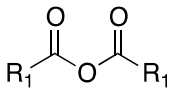
4. PROCESS FOR OBTAINING THE COMPOUND of the general formula (I) of claim 1, characterized for comprising the following steps:

(a) reacting a compound of formula (III)



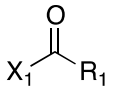
(III),

with a carboxylic acid anhydride of formula(IV)



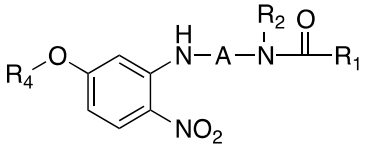
(IV);

or with a carboxylic acid halide of formula(V)



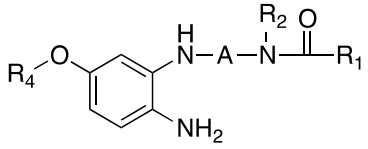
(V),

wherein R1, R2 and R4 are as described for the compound of formula (I) and X_1 represents a halogen selected from the group comprising chlorine and bromine, to obtain a compound of formula (VI)



(VI),

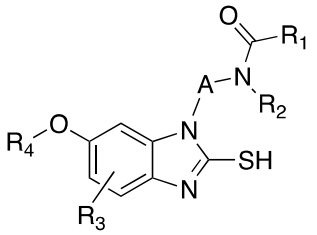
(b) reacting the compound (VI) obtained in step (a) with a reducing agent to obtain the compound of formula (VII)



(VII),

(e) reacting of compound (VII) obtained in step (b) with

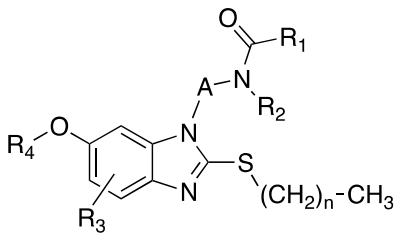
thiourea to obtain the compound (VIII)



(VIII)

wherein R_3 represents a hydrogen atom;

(f) reacting the compound (VIII) obtained in step (e) with an alkylating agent to obtain the compound of formula (Ib)



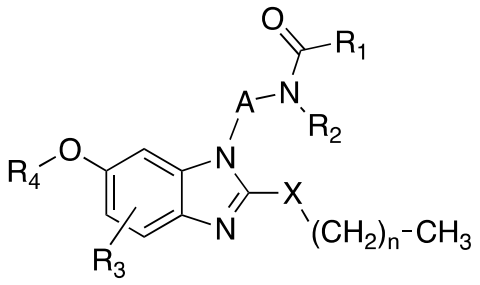
(Ib),

wherein R_3 represents a hydrogen atom and "n" represents zero or one;

(g) reacting the compound of formula (Ib) obtained in step (f) with a halogenating agent selected from the group comprising N-bromosuccinimide, N-chlorosuccinimide and N-iodosuccinimide, to obtain the compound of formula (Ib) wherein R_3 represents a halogen selected from the group consisting of bromine, chlorine and iodine.

5. PHARMACEUTICAL COMPOSITION characterized by comprising:

a) at least one compound of general formula (I)



(I)

wherein

X corresponds to an oxygen atom;

A corresponds to a linear alkyl C_{2-4} group, which may have one or more of its hydrogens substituted by an alkyl group selected from methyl, ethyl, propyl or isopropyl;

R_1 is alkyl C_{1-6} or cycloalkyl C_{3-6} group;

R_2 is a hydrogen or a alkyl C_{1-3} group;

R_3 corresponds to a hydrogen or a halogen atom;

R_4 is a alkyl C_{1-6} group;

n is 0 or 1;

b) pharmaceutically acceptable vehicle.

6. PHARMACEUTICAL COMPOSITION, according to claim 10, characterized in that the compound of formula (I) is selected from the group consisting of:

- *N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;
- *N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)propionamide;
- *N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)butyramide;
- *N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclopropane carboxamide;
- *N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclobutanecarboxamide;
- *N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclopentane carboxamide;
- *N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclohexane carboxamide;
- *N*-(3-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;
- *N*-(3-(2,6-dimethoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;
- *N*-(2-(2,6-dimethoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;
- *N*-(2-(2,6-dimethoxy-1*H*-benzimidazole-1-

yl)ethyl)propionamide;

- *N*-(2-(2,6-dimethoxy-1*H*-benzimidazole-1-yl)ethyl)butyramide;
- *N*-(1-(2-Ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)propan-2-yl)acetamide;
- 2-Bromo-*N*-(2-(2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;
- *N*-(2-(5-bromo-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;
- *N*-(2-(5-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;
- *N*-(3-(5-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;
- *N*-(3-(5-chloro-2,6-dimethoxy-1*H*-benzimidazole-1-yl)propyl)acetamide;
- *N*-(2-(5-chloro-2,6-dimethoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide;
- *N*-(2-(5-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)cyclopropane carboxamide;
- *N*-(2-(7-chloro-2-ethoxy-6-methoxy-1*H*-benzimidazole-1-yl)ethyl)acetamide.

7. USE OF THE COMPOUND of formula (I), according to claim 1, characterized in that it is for the manufacture of a drug for the treatment of psychiatric disorders and/or sleep disorders.