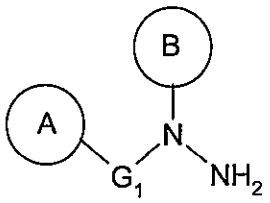
CLAIMS

1. A method for producing a compound of formula (I):



(I)

and the pharmaceutically acceptable salts thereof,

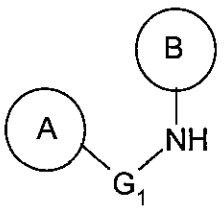
wherein:

- G_1 is a bond or a linear or branched, saturated or unsaturated hydrocarbon chain comprising 1 to 4 carbon atoms, optionally substituted by one or two alkyl groups,
- A is an aryl group optionally substituted:

- in the meta or para position by:
  - a halogen atom or a cyano, alkoxy, haloalkoxy, acylaminoalkyl or –XR group where X is –O–, –S–, –SO–, $–SO_2–$ or –CO– and R is an arylalkyl, cycloalkyl or aryl group, each optionally substituted by one or two identical or different substituents selected from the group consisting of a halogen atom, an alkoxy, and an acyl group, or
  - a cycloalkyl, aryl or arylalkyl group, each optionally substituted by one or two identical or different substituents selected from the group consisting of an alkoxy and an acyl group,
- and/or in the ortho or meta position by an alkyl group, and

- B is an aryl group substituted in the ortho position by a heterocycle and optionally substituted in the ortho' position by an alkyl group,

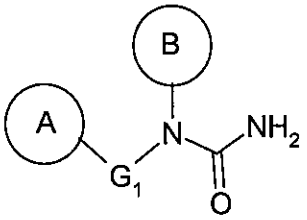
comprising reacting an amine of formula (II):



(II)

wherein G_1, A and B are as defined above,

to produce a urea of formula (III) as a synthesis intermediate:

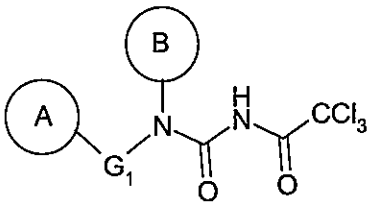


(III)

wherein G_1, A and B are as defined above,

wherein the urea of formula (III) is produced from the amine of formula (II) according to the following steps:

(1) reacting the amine of formula (II) with $Cl_3CC(O)–N=C=O$ to give the compound of formula (IV) as follows:



(IV)

wherein G_1, A and B are as defined above, and

(2) treating in basic medium the compound of formula (IV) obtained in the preceding step to give a urea of formula (III),

and reacting formula (III) to obtain formula (I),

.

2. The method according to claim 1, wherein the compound of formula (I) is produced from the urea of formula (III) by means of Shestakov rearrangement.

3. The method according to claim 2, wherein the Shestakov rearrangement is carried out in the presence of a rearrangement inducing agent selected from the group consisting of NaOCl and KOCl.

4. The method according to claim 3, wherein the rearrangement inducing agent is introduced in a staggered fashion.

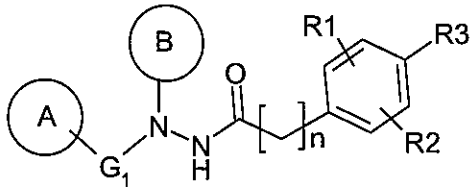
5. The method according to claim 1, wherein A is an aryl substituted in the meta or para position by an alkoxy group or by an aryl or arylalkyl group optionally substituted by one or two identical or different substituents selected from an acyl group and an alkoxy group.

6. The method according to claim 1, wherein B is an aryl group substituted in the ortho position by an N–cycloalkyl and optionally substituted in the ortho′ position by an alkyl group.

7. The method according to claim 1, wherein A is a phenyl substituted in the para position by an alkoxy group or by an aryl or arylalkyl group optionally substituted by one or two identical or different substituents selected from an acyl group and an alkoxy group and B is a phenyl substituted in the ortho position by a piperidin–1–yl group and optionally substituted in the ortho′ position by a methyl.

8. The method according to claim 1, wherein the compound of formula (I) is *N*–(4–benzyl–phenyl)–*N*′–(2–methyl–6–piperidin–1–yl–phenyl)–hydrazine.

9. A method for producing a compound of following formula (V):



(V)

and the pharmaceutically acceptable salts thereof,
wherein:

- R1 is an alkoxy group,
- R2 is a hydrogen or halogen atom or an alkyl group,
- R3 is an acid or ester group,

- n is an integer between 1 and 4,
- G_1 is a bond or a linear or branched, saturated or unsaturated hydrocarbon chain comprising 1 to 4 carbon atoms, optionally substituted by one or two alkyl groups,
- A is an aryl group optionally substituted:

- in the meta or para position by:
  - a halogen atom or a cyano, alkoxy, haloalkoxy, acylaminoalkyl or –XR group where X is –O–, –S–, –SO–, $-SO_2-$ or –CO– and R is an arylalkyl, cycloalkyl or aryl group, each optionally substituted by one or two identical or different substituents selected from the group consisting of a halogen atom, an alkoxy, and an acyl group, or
  - a cycloalkyl, aryl or arylalkyl group, each optionally substituted by one or two identical or different substituents selected from the group consisting of an alkoxy and an acyl group,
- and/or in the ortho or meta position by an alkyl group, and

- B is an aryl group substituted in the ortho position by a heterocycle and optionally substituted in the ortho′ position by an alkyl group,

comprising reacting a compound of formula (I) obtained by the method according to claim 1.

10. The method according to claim 9, wherein in the compound of formula (V) produced by said method, R1 is a methoxy, R2 is a hydrogen, a chlorine, a bromine, or a methyl, and R3 is an acid group.

11. The method according to claim 9, wherein in the compound of formula (V) produced by said method, R1 is in the ortho position relative to R3 and R2 is in the meta position relative to R3.

12. The method according to claim 9, wherein in the compound of formula (V) produced by said method, n is 1 or 2.

13. The method according to claim 9, wherein in the compound of formula (V) produced by said method, B is an aryl group substituted in the ortho position by an N–cycloalkyl and optionally substituted in the ortho′ position by an alkyl group.

14. The method according to claim 9, wherein in the compound of formula (V) produced by said method, A is a phenyl substituted in the para position by an alkoxy group or by an aryl or arylalkyl group optionally substituted by one or two identical or different substituents selected from an acyl group and an alkoxy group and B is a phenyl substituted in the ortho position by a piperidin–1–yl group and optionally substituted in the ortho′ position by a methyl.

15. The method according to claim 9, wherein the compound of formula (V) produced by said method is 4–[*N*′–(4–benzyl–phenyl)–*N*′–(2–methyl–6–piperidin–1–yl–phenyl)–hydrazinocarbonyl methyl]–5–bromo–2–methoxy–benzoic acid hydrochloride.