

PATENT

N-Substituted heterocyclic derivatives, their preparation and the pharmaceutical compositions in which they are present

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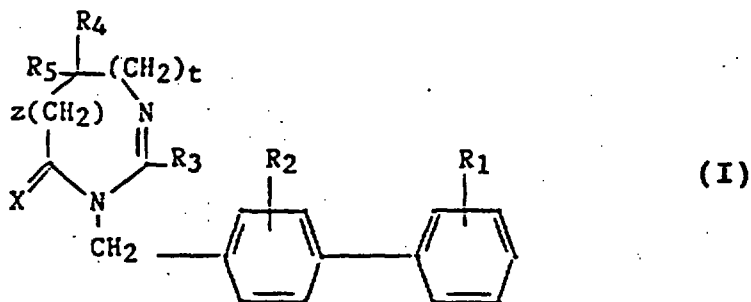
In the name of: SANOFI

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ABSTRACT OF THE DISCLOSURE

The invention relates to N-substituted heterocyclic derivatives.

These derivatives have the formula



in which:

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- $R_1$  and  $R_2$  are similar or different and are each independently hydrogen or a group selected from a  $C_1-C_6$  alkyl, a  $C_1-C_4$  alkoxy, an amino, an aminomethyl, a carboxyl, an alkoxycarbonyl in which the alkoxy is  $C_1-C_4$ , a cyano, a tetrazolyl, a methyltetrazolyl, a methylsulfonylamino, a trifluoromethylsulfonylamino, a trifluoromethylsulfonylaminomethyl, an N-cyanoacetamide, an N-hydroxyacetamide, an N-(4-carboxy-1,3-thiazol-2-yl)acetamide, a ureido, a 2-cyanoguanidinocarbonyl, a 2-cyanoguanidinomethyl, an imidazol-1-ylcarbonyl and a 3-cyano-2-methylisothio-ureidomethyl, with the proviso that at least one of the substituents  $R_1$  or  $R_2$  is other than hydrogen;
- $R_3$  is a hydrogen, a  $C_1-C_6$  alkyl which is unsubstituted or substituted by one or more halogen atoms, a  $C_2-C_6$  alkenyl, a  $C_3-C_7$  cycloalkyl, a phenyl, a phenylalkyl in which the alkyl is  $C_1-C_3$ , or a phenylalkenyl in which the alkenyl is  $C_2-C_3$ , said phenyl groups being unsubstituted or monosubstituted or polysubstituted by a halogen atom, a  $C_1-C_4$  alkyl, a  $C_1-C_4$  halogenoalkyl, a  $C_1-C_4$  polyhalogenoalkyl, a hydroxyl or a  $C_1-C_4$  alkoxy;
- $R_4$  and  $R_5$  are each independently a  $C_1-C_6$  alkyl, a phenyl or a phenylalkyl in which the alkyl is  $C_1-C_3$ , said alkyl, phenyl and phenylalkyl groups being unsubstituted or substituted by one or more halogen atoms or by a group selected from a  $C_1-C_4$  perfluoroalkyl, a hydroxyl and a  $C_1-C_4$  alkoxy;
- or  $R_4$  and  $R_5$  together form a group of the formula  $=CR_7R_8$ , in which  $R_7$  is hydrogen, a  $C_1-C_4$  alkyl or a phenyl and  $R_8$  is a  $C_1-C_4$  alkyl or a phenyl;
- or else  $R_4$  and  $R_5$  together are either a group of the formula  $(CH_2)_n$  or a group of the formula  $(CH_2)_pY-(CH_2)_q$ , in which Y is either an oxygen atom, or a sulfur atom, or a carbon atom substituted by a  $C_1-C_4$

alkyl group, a phenyl or a phenylalkyl in which the alkyl is  $C_1-C_3$ , or a group  $N-R_6$ , in which  $R_6$  is a hydrogen, a  $C_1-C_4$  alkyl, a phenylalkyl in which the alkyl is  $C_1-C_3$ , a  $C_1-C_4$  alkylcarbonyl, a  $C_1-C_4$  halogenoalkylcarbonyl, a  $C_1-C_4$  polyhalogenoalkylcarbonyl, a benzoyl, an alpha-aminoacyl or an N-protecting group, or  $R_4$  and  $R_5$ , together with the carbon atom to which they are bonded, form an indane or an adamantane;

- $p + q = m$ ;
  - $n$  is an integer between 2 and 11;
  - $m$  is an integer between 2 and 5;
  - $X$  is an oxygen atom or sulfur atom; and
  - $z$  and  $t$  are zero or one is zero and the other is one;
- and its salts (sic).

Application: Angiotensin II antagonists

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