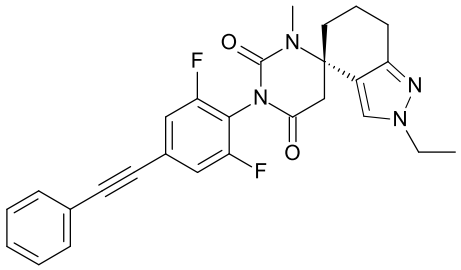
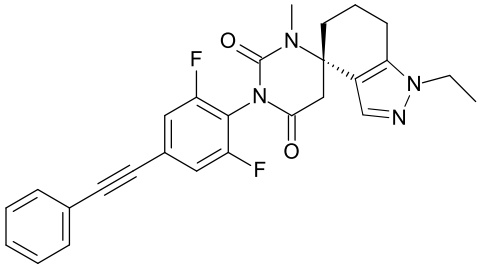
The most preferred indications for compounds which are allosteric modulators for the mGluR4 receptor are Parkinson's disease, anxiety, emesis, obsessive compulsive disorder, anorexia, autism, neuroprotection, cancer, depression and type 2 diabetes.

The present disclosure relates to compounds of formulas IA and IB and to their pharmaceutically acceptable salts, to these compounds as pharmaceutically active substances, to the processes for their production as well as to their use in the treatment or prevention of disorders, relating to allosteric modulators for the mGluR4 receptor, such as Parkinson's disease, anxiety, emesis, obsessive compulsive disorder, autism, neuroprotection, cancer, depression and diabetes type 2 and to pharmaceutical compositions containing the compounds of formula IA and IB.

In one aspect, there is provided a compound of formulas IA and IB



IA

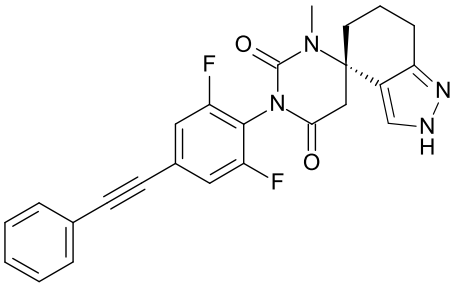


IB

or a pharmaceutically acceptable salt or acid addition salt, a racemic mixture, or its corresponding enantiomer and/or optical isomer and/or stereoisomer thereof.

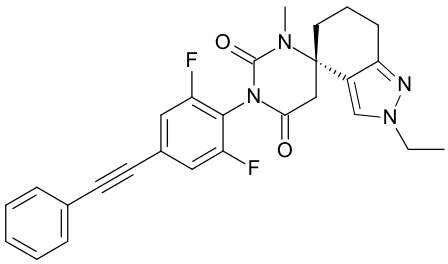
In another aspect, there is provided a process for the manufacture of the compound of formula IA or IB as defined herein, which process comprises

alkylating a compound of formula

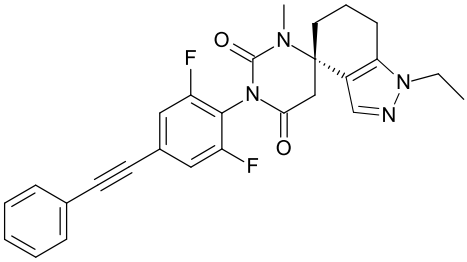


12

with ethyliodide and separating of the isomers to a compound of formulas



IA



IB

or, if desired, converting the compounds obtained into pharmaceutically acceptable salts thereof.

In another aspect, there is provided a compound of formula IA or IB as defined herein for use as therapeutically active substances.

In another aspect, there is provided a compound of formula IA or IB as defined herein for use in the treatment of Parkinson’s disease, anxiety, emesis, obsessive compulsive disorder, autism, cancer, depression and diabetes type 2.

In another aspect, there is provided a pharmaceutical composition comprising a compound of formula IA or IB as defined herein and pharmaceutically acceptable excipients.

In another aspect, there is provided use of a compound of formula IA or IB as defined herein in the preparation of a medicament for the treatment of Parkinson's disease, anxiety, emesis, obsessive compulsive disorder, autism, cancer, depression and diabetes type 2.

A further object of the present disclosure is a method for the treatment or prophylaxis of Parkinson's disease, anxiety, emesis, obsessive compulsive disorder, anorexia, autism, neuroprotection, cancer, depression and type 2 diabetes , which method comprises administering an effective amount of a compound of formulas IA and IB to a mammal in need.

Furthermore, the disclosure includes all racemic mixtures, all their corresponding enantiomers and/or optical isomers, or analogues containing isotopes of hydrogen, fluorine, carbon, oxygen or nitrogen.

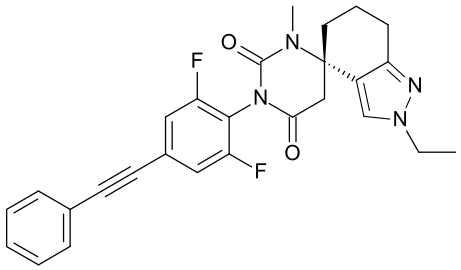
The term "pharmaceutically acceptable acid addition salt" embraces a salt with inorganic and organic acids, such as hydrochloric acid, nitric acid, sulfuric acid, phosphoric acid, citric acid, formic acid, fumaric acid, maleic acid, acetic acid, succinic acid, tartaric acid, methane-sulfonic acid or p-toluenesulfonic acid.

The preparation of compounds of formulas IA and IB of the present invention may be carried out in sequential or convergent synthetic routes. Syntheses of the compounds of the invention are shown in the following scheme 1. The skills required for carrying out the reaction and purification of the resulting products are known to those skilled in the art. The substituents and indices used in the following description of the processes have the significance given herein before.

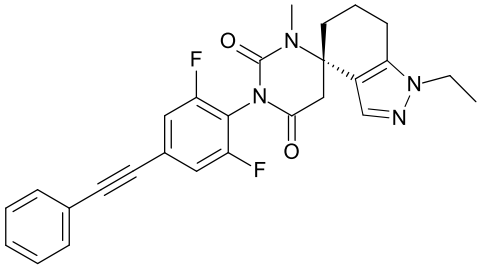
The compounds of formulas IA and IB can be manufactured by the methods given below, by the methods given in the examples or by analogous methods. Appropriate reaction conditions for the individual reaction steps are known to a person skilled in the art. The reaction sequence is not limited to the one displayed in the schemes, however, depending on the starting materials and

Claims

1. A compound of formulas IA and IB



IA

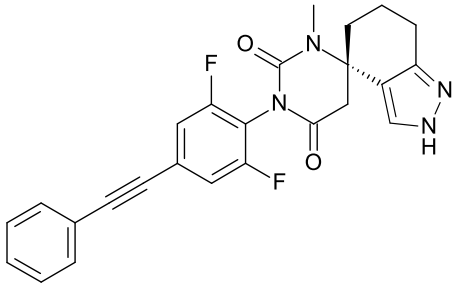


IB

or a pharmaceutically acceptable salt or acid addition salt, a racemic mixture, or its corresponding enantiomer and/or optical isomer and/or stereoisomer thereof.

2. A process for the manufacture of the compound of formula IA or IB as defined claim 1, which process comprises

alkylating a compound of formula



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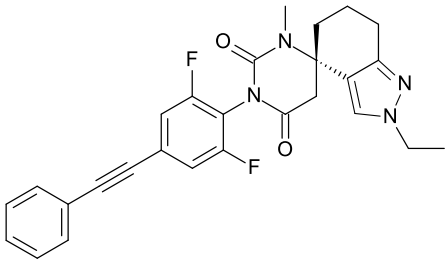
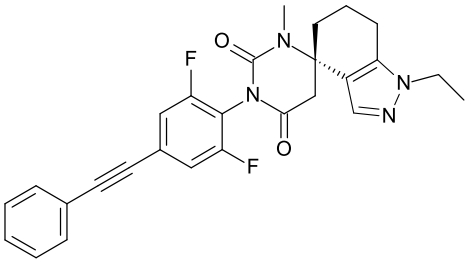
with ethyliodide and separating of the isomers to a compound of formulas



IA



IB

or, if desired, converting the compounds obtained into pharmaceutically acceptable salts thereof.

3. A compound of formula IA or IB according to claim 1 for use as therapeutically active substances.

4. A compound of formula IA or IB according to claim 1 for use in the treatment of Parkinson's disease, anxiety, emesis, obsessive compulsive disorder, autism, cancer, depression and diabetes type 2.

5. A pharmaceutical composition comprising a compound of formula IA or IB as claimed in claim 1 and pharmaceutically acceptable excipients.

6. The use of a compound of formula IA or IB according to claim 1 in the preparation of a medicament for the treatment of Parkinson's disease, anxiety, emesis, obsessive compulsive disorder, autism, cancer, depression and diabetes type 2.