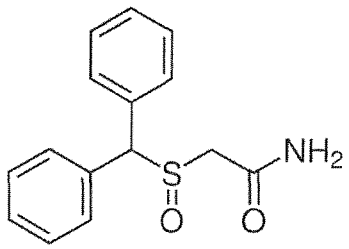
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USE OF MODAFINIL IN THE TREATMENT OF COCAINE ADDICTS

Modafinil is 2-[(diphenylmethyl)sulfinyl)]acetamide, the molecular formula of which is $C_{15}H_{15}NO_2S$ and the structural formula is:



SUMMARY

In one aspect, there is provided the use of a pharmaceutical composition comprising modafinil wherein said modafinil is in the form of its dextro-rotary enantiomer, S modafinil, in the manufacture of a medicament for the substitution treatment of cocaine addicts, wherein the medicament is characterized in that the dose of S modafinil absorbed by the patient is from 50 to 100 mg per unit dose.

In one aspect, there is provided the use of a pharmaceutical composition based on S modafinil in the manufacture of a medicament for the substitution treatment of cocaine addicts, wherein said S modafinil is obtained by the technology of the supercritical fluid, said S modafinil being absorbed at the surface of granules made in an inert support.

DETAILED DESCRIPTION

Presently, the use of cocaine is the cause of many medical disorders and psychiatric complications such as addiction. Thus, addiction to cocaine is a serious public health problem which is only increasing. In the USA, it is reported that more than 200,000 persons in 2002 had to receive emergency care as a result of medical or psychiatric problems consecutive to the use of cocaine. Today, many molecules may be used in the treatment of addiction to cocaine. Indeed, the mode of action of cocaine at the brain level involves at least three neuromediators: GABA (Gamma-AminoButyric Acid), glutamate, and DA (dopamine). Thus, different active molecules on these mediators have been subject to an efficiency study on humans. These molecules are baclofene, topiramate, modafinil, disulfiram [BH Herman, A. Elkashef, F. Vocci -Medications for the treatment of cocaine addiction: Emerging candidates. Drug Discovery Today: Therapeutic Strategies, Vol.2, No.1, 2005], [P. Tahsili-Fahadan, GV Carr, GC Harris, and G. Aston-Jones - Modafinil blocks reinstatement of extinguished opiate-seeking in rats: mediation by a glutamate mechanism, Neuropsychopharmacology, 25, 2010, 2203-2210], [J.M. Martinez-Raga; C. Knecht and S. Cepeda - Modafinil: a useful medication for cocaine addiction? Review of the evidence from neuropharmacological, experimental and clinical studies – Current Drug Abuse Reviews, 2008, 1, 213-221].

Modafinil is a wakening drug which has been used in Europe since the nineties: it increases the wakening and diurnal alertness levels and is prescribed in the treatment of narcolepsy.

CLAIMS

1. Use of a pharmaceutical composition comprising modafinil wherein said modafinil is in the form of its dextro-rotary enantiomer, S modafinil, in the manufacture of a medicament for the substitution treatment of cocaine addicts, wherein the medicament is characterized in that the dose of S modafinil absorbed by the patient is from 50 to 100 mg per unit dose.

2. The use according to claim 1, characterized in that said S modafinil has a release of less than 1 hour from its absorption by the patient.

3. The use according to claim 2, characterized in that said release is located between 15 and 30 minutes.

4. The use according to any of claims 1 to 3, characterized in that the effect of said S modafinil is less than 4 hours from its absorption by the patient.

5. The use according to claim 4, characterized in that said effect is less than 2 hours.

6. The use according to any of claims 1 to 5, characterized in that said medicament is absorbed via an oral route.

7. The use according to claim 6, characterized in that said S modafinil is obtained by the technology of the supercritical fluid, said S modafinil being absorbed at the surface of granules made in an inert support.

8. The use according to any of claims 1 to 6, characterized in that said medicament appears as tablets.

9. The application according to any of claims 1 to 6, characterized in that said pharmaceutical composition appears as semi-solid gelatin capsules, each gelatin capsule comprising:
   - modafinil, in the form of its enantiomer S,

- an oleic complex comprising at least one compound selected from polyethylene glycols having a molecular weight comprised between 300 and 500 daltons and from glycerides,
- an emulsifier.

10. The use according to claim 9, characterized in that the S modafinil / oleic complex ratio is located between 35 and 65 %.

11. The use according to claim 10, characterized in that said ratio is located between 40 and 60%.

CLAIMS

1. Use of a pharmaceutical composition based on S modafinil in the manufacture of a medicament for the substitution treatment of cocaine addicts, wherein said S modafinil is obtained by the technology of the supercritical fluid, said S modafinil being absorbed at the surface of granules made in an inert support.

2. The use according to claim 1, characterized in that said fluid is CO2.

3. The use according to any of claims 1 or 2, characterized in that said support is anhydrous lactose.

4. The use according to any of claims 1 or 2, characterized in that said support is mannitol.

5. The use according to any of claims 1 to 4, characterized in that said composition is in the form of a tablet.

6. The use according to claim 5, characterized in that said tablet contains from 25 to 200 mg of S modafinil.

7. The use according to claim 6, characterized in that said tablet contains from 50 to 100 mg of S modafinil.