

Certificate of Analysis

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Product Name: (R)-Modafinil

Catalog No.: 6131

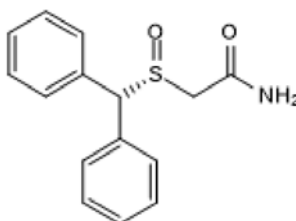
Batch No.: 1

CAS Number: 112111-43-0

IUPAC Name: (-)-2R-[(Diphenylmethyl)sulfinyl]acetamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₅H₁₅NO₂S
Batch Molecular Weight: 273.35
Physical Appearance: White solid
Solubility: DMSO to 100 mM
 ethanol to 20 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity
Chiral HPLC: Shows 99.9% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = -80 (Concentration = 1, Solvent = Chloroform)
Microanalysis:

| | Carbon Hydrogen Nitrogen | | |
|-------------|--------------------------|------|------|
| Theoretical | 65.91 | 5.53 | 5.12 |
| Found | 65.96 | 5.46 | 5.14 |

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Product Information

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Catalog No.: 6131

Batch No.: 1

CAS Number: 112111-43-0

IUPAC Name: (-)-2R-[(Diphenylmethyl)sulfinyl]acetamide

Description:

Dopamine uptake inhibitor ($IC_{50} = 4 \mu M$). Increases extracellular dopamine (DA) levels in the nucleus accumbens and substitutes for cocaine in discrimination tests in mice.

Physical and Chemical Properties:

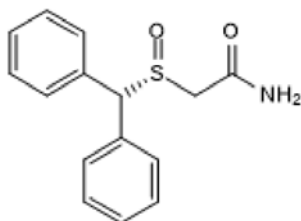
Batch Molecular Formula: $C_{15}H_{15}NO_2S$

Batch Molecular Weight: 273.35

Physical Appearance: White solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 20 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Loland et al (2012) R-modafinil (armodafinil): a unique DA uptake inhibitor and potential medication for psychostimulant abuse. *Biol.Psychiatry* **72** 405. PMID: 22537794 .

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