

## Certificate of Analysis

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**Product Name:** (R)-Modafinil

**Catalog No.:** 6131

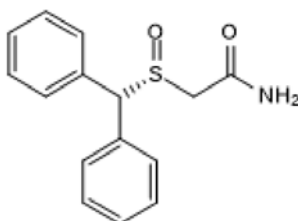
**Batch No.:** 1

CAS Number: 112111-43-0

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

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>15</sub>H<sub>15</sub>NO<sub>2</sub>S  
**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  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Optical Rotation:** [α]<sub>D</sub> = -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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**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:**

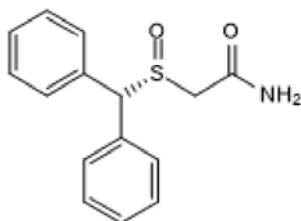
Batch Molecular Formula:  $C_{15}H_{15}NO_2S$

Batch Molecular Weight: 273.35

Physical Appearance: White solid

**Minimum Purity:** >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.

**Other Information:**

**INFORMATION FOR CUSTOMERS IN THE USA ONLY**

This product is a Schedule IV DEA controlled substance and customers in the USA are required to hold a controlled substance registration in order to purchase and possess this material (in accordance with Title 21 code of federal regulations part 1300 to end).

**References:**

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

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