

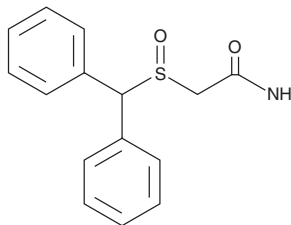
# PRODUCT INFORMATION



## Modafinil

Item No. 15417

**CAS Registry No.:** 68693-11-8  
**Formal Name:** 2-[(diphenylmethyl)sulfinyl]-acetamide  
**Synonyms:** CEP-1538, CRL 40476, (±)-Modafinil  
**MF:** C<sub>15</sub>H<sub>15</sub>NO<sub>2</sub>S  
**FW:** 273.4  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥5 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Description

Modafinil (Item No. 15417) is an analytical reference standard that is classified as a nootropic. It is a wake-promoting agent that binds competitively and selectively to the dopamine transporter, modulating catecholaminergic signaling by inhibiting its activity ( $IC_{50} = 3 \mu\text{M}$ ;  $K_i = 2 \mu\text{M}$ ).<sup>1</sup> With much weaker potency, modafinil can bind the norepinephrine transporter ( $IC_{50} < 10 \mu\text{M}$ ) and the serotonin transporter ( $IC_{50} > 500 \mu\text{M}$ ).<sup>2</sup> Aside from its utility in sleeping disorders, modafinil has also been explored for treating the symptoms of fatigue that are often associated with multiple sclerosis (and other diseases) and as an intervention for cognitive impairments associated with drug addiction.<sup>3-5</sup> Modafinil is regulated as a Schedule IV compound in the United States. This product is intended for forensic and research applications.

### References

1. Wisor, J. Modafinil as a catecholaminergic agent: Empirical evidence and unanswered questions. *Front. Neurol.* **4**, 139 (2013).
2. Minzenberg, M.J. and Carter, C.S. Modafinil: A review of neurochemical actions and effects on cognition. *Neuropsychopharmacology* **33(7)**, 1477-1502 (2008).
3. Schwartz, J.R.L. Modafinil in the treatment of excessive sleepiness. *Drug. Des. Devel. Ther.* **2**, 71-85 (2008).
4. Campos, M.P., Hassan, B.J., Riechelmann, R., *et al.* Cancer-related fatigue: A review. *Rev. Assoc. Med. Bras.* **57(2)**, 211-219 (2011).
5. Sofuoglu, M., DeVito, E.E., Waters, A.J., *et al.* Cognitive enhancement as a treatment for drug addictions. *Neuropharmacology* **64**, 452-463 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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