

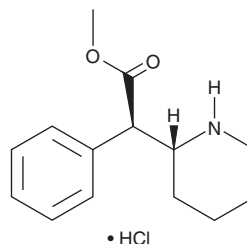
PRODUCT INFORMATION



(±)-*threo*- Methylphenidate (hydrochloride)

Item No. 11639

CAS Registry No.: 23655-65-4
Formal Name: (αR,2R)-*rel*-α-phenyl-2-piperidineacetic acid, methyl ester, monohydrochloride
Synonyms: DL-*threo*-Methylphenidate, Ritalinic Acid methyl ester, NSC 169868
MF: C₁₄H₁₉NO₂ • HCl
FW: 269.8
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

(±)-*threo*-Methylphenidate (a.k.a., Ritalin) is a schedule II drug in the United States commonly used as a psychostimulant for the treatment of attention-deficit hyperactivity disorder. It blocks dopamine and norepinephrine transporters as well as facilitates NMDA-receptor mediated synaptic transmission through σ 1 receptors via PLC/PKC signaling.¹ This interaction with the σ 1 receptor has been suggested to underlie (±)-*threo*-methylphenidate's considerable abuse potential and potential psychiatric side effects.^{1,2} This product is intended for forensic and biological research applications.

References

1. Zhang, C.-L., Feng, Z.-J., Liu, Y., *et al.* Methylphenidate enhances NMDA-receptor response in medial prefrontal cortex via sigma-1 receptor: A novel mechanism for methylphenidate action. *PLoS One* **7**(12), (2012).
2. Lakhan, S.E. and Kirchgessner, A. Prescription stimulants in individuals with and without attention deficit hyperactivity disorder: Misuse, cognitive impact, and adverse effects. *Brain Behav.* **2**(5), 661-677 (2012).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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