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: Concerta, Medikinet, NSC 169868, Ritalin
MF: C_{14}H_{19}NO_2 • HCl
FW: 269.8
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

(±)-threo-Methylphenidate (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-threo-methylphenidate (hydrochloride) in the solvent of choice. (±)-threo-Methylphenidate (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of (±)-threo-methylphenidate (hydrochloride) in ethanol is approximately 25 mg/ml and approximately 14 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (±)-threo-methylphenidate (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (±)-threo-methylphenidate (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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 α1 receptors via PLC/PKC signaling. This interaction with the α1 receptor has been suggested to underlie (±)-threo-methylphenidate's considerable abuse potential and potential psychiatric side effects. This product is intended for forensic and biological research applications.

References