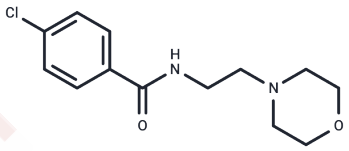
Data Sheet (Cat.No.T0084)

TargetMol

Moclobemide

Chemical Properties



CAS No. : 71320-77-9

Formula: C13H17ClN2O2

Molecular Weight: 268.74

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Moclobemide (Ro111163) is a reversible inhibitor of monoamine oxidase type A; (RIMA); (see MONOAMINE OXIDASE INHIBITORS) that has antidepressive properties.
Targets(IC50)	MAO,Monoamine Oxidase
In vitro	Moclobemide orally administered 2 hours before decapitation preferentially inhibits MAO-A and PEA in rat brain with ED50 of 7.6 μmol/kg and 78 μmol/kg, respectively. Moclobemide orally administered 2 hours before decapitation preferentially inhibits MAO-A and PEA in rat liver with ED50 of 8.4 μmol/kg and 6.6 μmol/kg, respectively. Moclobemide (0.1 mM), which inhibits brain MAO-A activity by over 80%, does not affect benzylamine oxidase (rat heart) and diamine oxidase (rat small intestine) activity in vitro. [1] Moclobemide (10 mM-100 mM) includes in the culture medium during anoxia or with glutamate significantly increases in a concentration-dependent manner the amount of surviving neurons compared to controls in neuronal-astroglial cultures from rat cerebral cortex. [2]
In vivo	Moclobemide (10 mg/kg p.o.) induces a significant decrease of all monoamine metabolites measured in rat brain. [1] Moclobemide, given via the drinking water (4.5 mg/kg/day), produces significant decreases in adrenal weight of rats after 5 (-23%) and 7 weeks (-16%) of treatment. Moclobemide upregulates hippocampal mineralocorticoid receptor (MR) levels in rats by 65%, 76% and 19% at 2 weeks, 5 weeks and 7 weeks of treatment, and upregulates Glucocorticoid receptor (GR) levels in this limbic brain structure by 10% at 5 weeks. Moclobemide treatment (5 weeks, 4.5 mg/kg/day) significantly attenuates stress (30 min novel environment)-induced plasma ACTH (-35%) and corticosterone (-29%) levels. [3] Moclobemide (2.5 mg/kg/day) decreases immobility and increases climbing behavior following treatment for 3 days, but increases in both swimming and climbing behaviors are measured following treatment for 14 days. Moclobemide (15 mg/kg/day) decreased immobility and increased swimming for 3 days, whereas treatment for 14 days significantly increases both active behavior (swimming and climbing). [4] Moclobemide (100 mg/kg/day) combined with triethyltin blocks the development of brain edema and the increase in the cerebral chloride content induced by triethyltin in rats. Moclobemide (100 mg/kg/day) reduces the increase in the cerebral sodium content and attenuates the neurological deficit in rats. [5]

Solubility Information

Solubility	Ethanol: 26.9 mg/mL (100.1 mM),Sonication is recommended. DMSO: 65 mg/mL (241.87 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7211 mL	18.6053 mL	37.2107 mL
5 mM	0.7442 mL	3.7211 mL	7.4421 mL
10 mM	0.3721 mL	1.8605 mL	3.7211 mL
50 mM	0.0744 mL	0.3721 mL	0.7442 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Da Prada M, et al. J Pharmacol Exp Ther, 1989, 248(1), 400-414.
Verleye M, et al. Brain Res, 2007, 1138, 30-38.
Reul JM, et al. Neuroendocrinology, 1994, 60(5), 509-519.
Cryan JF, et al. Psychopharmacology (Berl), 2005, 182(3), 335-344.
Girard P, et al. Can J Physiol Pharmacol, 2007, 85(5), 556-561.