Product Data Sheet

Product Name: L-(-)-α-Methyldopa hydrochloride
Cat. No.: GC16401

Chemical Properties

Cas. No.	884-39-9		
Chemical Name	(2S)-2-amino-3-(3,4-dihydroxyphenyl)-2-methylpropanoic acid;hydrochloride		
SMILES	CC(CC1=CC(=C(C=C1)O)O)(C(=O)O)N.Cl		
Formula	$C_{10}H_{14}ClNO_4$	M.Wt	247.68
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

L-(-)-α-Methyldopa hydrochloride is an alpha-adrenergic agonist (selective for α2-adrenergic receptors) psychoactive drug used as a sympatholytic or antihypertensive.Target: alpha-adrenergic agonistMethyldopa is an alpha-adrenergic agonist (selective for α2-adrenergic receptors) psychoactive drug used as a sympatholytic or antihypertensive. Its use is now mostly deprecated following the introduction of alternative safer classes of agents. However, it continues to have a role in otherwise difficult to treat hypertension and gestational hypertension (also known as pregnancy-induced hypertension (PIH)).Methyldopa has a dual mechanism of action. It is a competitive inhibitor of the enzyme DOPA decarboxylase, also known as aromatic L-amino acid decarboxylase, which converts L-DOPA into dopamine. Dopamine is a precursor for norepinephrine (noradrenaline) and subsequently epinephrine (adrenaline). This inhibition results in reduced dopaminergic and adrenergic neurotransmission in the peripheral nervous system. This effect may lower blood pressure and cause central nervous system effects such as depression, anxiety, apathy, anhedonia, and

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parkinsonism. It is converted to α-methylnorepinephrine by dopamine beta-hydroxylase (DBH). α-methylnorepinephrine is an agonist of presynaptic central nervous system α2-adrenergic receptors. Activation of these receptors in the brainstem appears to inhibit sympathetic nervous system output and lower blood pressure. This is also the mechanism of action of clonidine.

References:

[1]. BAILA MR, et al. The use of the combination of L-alpha-methyldopa and dichlorothiazide in the treatment of arterial hypertension. Dia Med. 1962 Dec 6;34:2422-4.