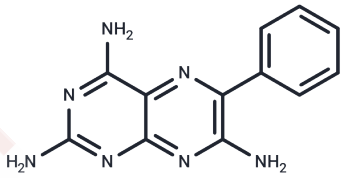
Data Sheet (Cat.No.T0843)

TargetMol

Triamterene

Chemical Properties



CAS No. : 396-01-0

Formula: C12H11N7

Molecular Weight: 253.26

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Triamterene is a barosensitive epithelial sodium channel (ENaC) blocker with a diuretic effect. It can also act as an inhibitor of the TGR5 receptor, reducing GLP-1 secretion and cAMP level increases induced by TGR5 activation in a dose-dependent manner.
Targets(IC50)	GPCR19,Sodium Channel
In vitro	Triamterene's 4'-hydroxylation in the human body appears to be mediated solely by CYP1A2. The inhibition or induction of CYP1A2 can alter the temporal profile of both Triamterene and its active phase II metabolites.
In vivo	Triamterene inhibits epithelial sodium channels in the distal convoluted tubule and collecting duct principal cells, leading to a reduction in total sodium reabsorption by 1-2%. By impeding sodium reabsorption, triamterene also diminishes potassium secretion. Normally, potassium secretion is driven by the electrochemical gradient produced by sodium reabsorption. As sodium is reabsorbed, a negative potential is left in the tubular lumen while a positive potential is created in the principal cells. This electrical potential promotes potassium excretion through apical potassium channels.

Solubility Information

Solubility	DMSO: 3.33 mg/mL (13.15 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (3.95 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9485 mL	19.7426 mL	39.4851 mL
5 mM	0.7897 mL	3.9485 mL	7.897 mL
10 mM	0.3949 mL	1.9743 mL	3.9485 mL
50 mM	0.079 mL	0.3949 mL	0.7897 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kellenberger S, et al. Mol Pharmacol, 2003, 64(4), 848-856.
Busch AE, et al. Pflugers Arch, 1996, 432(5), 760-766.
Fuhr U, et al. Int J Clin Pharmacol Ther, 2005, 43(7), 327-334.
Li Y, et al. Investigation of triamterene as an inhibitor of the TGR5 receptor: identification in cells and animals. Drug Des Devel Ther. 2017 Apr 5;11:1127-1134.