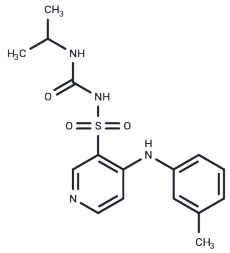
Data Sheet (Cat.No.T1410)

TargetMol

Torsemide

Chemical Properties



CAS No. : 56211-40-6

Formula: C16H20N4O3S

Molecular Weight: 348.42

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	Torsemide (AC-4464) is an anilinopyridine sulfonylurea belonging to the class of loop diuretics. Torsemide has a prolonged duration of action compared to other loop diuretics, is extensively protein bound in plasma and has a relatively long half-life.
Targets(IC50)	Others,Na-K-Cl cotransporter
In vitro	In rats, compared to baseline levels, Torsemide increases blood urea nitrogen (BUN) and plasma creatinine concentrations, and significantly and rapidly augments urine output. In canines with mitral valve closure, Torsemide elevates circulating angiotensin II and aldosterone levels, whereas furosemide only increases the level of angiotensin II.
In vivo	The primary action site of Torsemide is the thick ascending limb of the loop of Henle, where it promotes the excretion of water, sodium, and chloride by interacting with the K+, Na+, Cl- transporter. Torsemide disrupts the binding and secretion of aldosterone in a dose-dependent manner. It inhibits aldosterone secretion, which is produced by adrenal cortical cells of mice, guinea pigs, and cattle, and is stimulated in vivo by angiotensin, adrenocorticotropic hormone, butyryl cyclic AMP, corticosterone, or in vitro.

Solubility Information

Solubility	DMSO: 30.9 mg/mL (88.69 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 3.09 mg/mL (8.87 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.87 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	2.8701 mL	14.3505 mL	28.701 mL
5 mM	0.574 mL	2.8701 mL	5.7402 mL
10 mM	0.287 mL	1.435 mL	2.8701 mL
50 mM	0.0574 mL	0.287 mL	0.574 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

Goodfriend TL, et al. Life Sci,1998, 63(3), PL45-50.
Peddle GD, et al. J Vet Cardiol,2012, 14(1), 253-259.
Hori Y, et al. Am J Vet Res,2007, 68(10), 1058-1063.