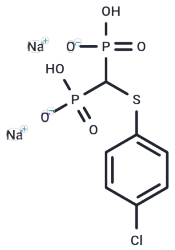
Data Sheet (Cat.No.T13159)

TargetMol

Tiludronate disodium

Chemical Properties



CAS No. : 149845-07-8

Formula: C7H7ClNa2O6P2S

Molecular Weight: 362.57

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	Tiludronate disodium (Tiludronic acid disodium) is an osteoclast vacuolar H(+)-ATPase inhibitor with antiresorptive and anti-inflammatory properties. Tiludronate disodium can be used in studies about metabolic bone disorders.
Targets(IC50)	ATPase,Proton pump
In vitro	Tiludronate displays potent inhibitory against proton transport in yeast microsomal preparations with an IC50 of 3.5 μM and inhibits the activity of purified yeast V-ATPase. Tiludronate inhibits proton transport with IC50s of 1.1 mM and 466 nM in kidney-derived vesicles and vesicles derived from osteoclasts[3].
In vivo	Tiludronate dose-dependently inhibits the resorption of bones. Tiludronate reduces the secrete proton of mature osteoclasts into the resorption space and favors the detachment of mature osteoclasts from the bone matrix. Oral administration of Tiludronate (5-200 mg/kg) prevents the decrease in the skeletal mass in the castrated male rat model[3].

Solubility Information

Solubility	H2O: 83.3 mg/mL (229.75 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7581 mL	13.7904 mL	27.5809 mL
5 mM	0.5516 mL	2.7581 mL	5.5162 mL
10 mM	0.2758 mL	1.379 mL	2.7581 mL
50 mM	0.0552 mL	0.2758 mL	0.5516 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

Reginster JY, et al. Prevention of postmenopausal bone loss by tiludronate. Lancet. 1989 Dec 23-30;2(8678-8679): 1469-71.
Nunes NLT, et al. Effects of local administration of tiludronic acid on experimental periodontitis in diabetic rats. J Periodontol. 2018 Jan;89(1):105-116.
Bonjour JP, et al. Tiludronate: bone pharmacology and safety. Bone. 1995;17(5 Suppl):473S-477S.
David P, et al. The bisphosphonate tiludronate is a potent inhibitor of the osteoclast vacuolar H(+)-ATPase. J Bone Miner Res. 1996;11(10):1498-1507.