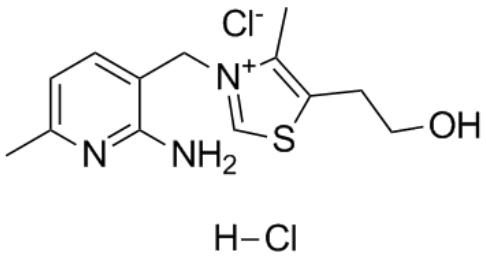
Product Data Sheet

Product Name: N3PT
Cat. No.: GC36677

Chemical Properties

Cas. No.	13860-66-7		
SMILES	CC1=C(CCO)SC=[N+]1CC2=CC=C(C)N=C2N.[H]Cl.[Cl-]		
Formula	$C_{13}H_{19}Cl_2N_3OS$	M.Wt	336.28
Solubility	DMSO: 2.86 mg/mL (8.50 mM)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C 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



Product Data Sheet

Background

N3PT(N3-pyridyl thiamine) is a potent and selective transketolase(TK) inhibitor (IC50= 22 nM for Apo-TK) both in vitro and in vivo.IC50 Value: 22 nM(Apo-TK) ; 26 nM (EC50, Cellular TK) [1]Target: transketolasein vitro: N3PT inhibits transketolase activity in a cell based assay. Competitive inhibition of TK by N3PT in cells treated with increasing doses of thiamine, expressed as percentage enzymatic activity (the slope of initial linear range) of controls not treated with compounds [1].in vivo: Tumors were induced in mice at day 0 and mice were then treated at day 7 with vehicle alone or with N3PT [2]. Low-thiamine diet enhances the sensitivity to N3PT inhibition of TK in spleen. Animals were switched to diets containing 16.5 mg/kg (unchanged), 5 mg/kg, 1 mg/kg, or 0 mg/kg thiamine, from a normal chow containing 16.5mg/kg thiamine [1].

[1]. Allen A. Thomas, Josh Ballard, Bryan Bernat. Potent and Selective Thiamine Antagonists That Inhibit Transketolase. [2]. Jeno Gyuris, May Han, Ronan C, N3-pyridyl-thiamine and its use in cancer treatments. Patent Numeber: WO2005094803 A2 [3]. Thomas AA, De Meese J, Le Huerou Y, Non-charged thiamine analogs as inhibitors of enzyme transketolase. Bioorg Med Chem Lett. 2008 Jan 15;18(2):509-12.

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA