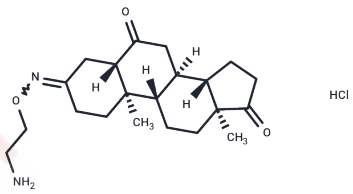
Data Sheet (Cat.No.T15599)

TargetMol

Istaroxime hydrochloride

Chemical Properties



CAS No. :	374559-48-5
Formula:	C21H33ClN2O3
Molecular Weight:	396.95
Storage:	Store at low temperature 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	Istaroxime hydrochloride (PST2744 hydrochloride) is a Na+/K+-ATPase inhibitor and sarcoplasmic/endoplasmic reticulum calcium ATPase 2 (SERCA 2) activator, a novel positive inotropic compound that can be used to study acute heart failure.
Targets(IC50)	ATPase,Calcium Channel
In vitro	Istaroxime hydrochloride acts as a positive inotropic drug by inhibiting Na+,K+-ATPase. [1] The IC50 value of Istaroxime hydrochloride for inhibition of Na+/K+-ATPase activity in dog kidney was 0.43 μM. In guinea-pig kidney tissue preparations, the potency of Istaroxime hydrochloride for inhibition of Na+/K+-ATPase activity was 8.5 μM. [2]
In vivo	Istaroxime hydrochloride progressively elevated +dP/dtmax throughout the infusion period, achieving an 80% effect at a cumulative dose of 1.89 ± 0.37 mg/kg (ED80) and reaching a peak effect of 140 ± 3.5% at a dose increase to 4.88 ± 0.6 mg/kg (EDmax). [2]

Solubility Information

Solubility	H2O: 20 mg/mL (50.38 mM),Sonication is recommended. DMSO: 40 mg/mL (100.77 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (5.04 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	2.5192 mL	12.596 mL	25.1921 mL
5 mM	0.5038 mL	2.5192 mL	5.0384 mL
10 mM	0.2519 mL	1.2596 mL	2.5192 mL
50 mM	0.0504 mL	0.2519 mL	0.5038 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

Gobbini M, et al. Novel analogues of Istaroxime, a potent inhibitor of Na(+),K(+)-ATPase: Synthesis, structure-activity relationship and 3D-quantitative structure-activity relationship of derivatives at position 6 on the androstane scaffold. Bioorg Med Chem. 2010 Jun 15;18(12):4275-99.
Micheletti R, et al. Pharmacological profile of the novel inotropic agent (E,Z)-3-((2-aminoethoxy)imino) androstane-6,17-dione hydrochloride (PST2744). J Pharmacol Exp Ther. 2002 Nov;303(2):592-600.
Gobbini M, et al. Novel analogues of istaroxime, a potent inhibitor of Na+,K+-ATPase: synthesis and structure-activity relationship. J Med Chem. 2008 Aug 14;51(15):4601-8.