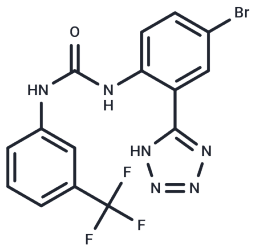
Data Sheet (Cat.No.T16347)

TargetMol

NS3623

Chemical Properties



CAS No. : 343630-41-1

Formula: C15H10BrF3N6O

Molecular Weight: 427.18

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	NS3623 is an activator of human ether-a-go-go-related gene (hERG) potassium channels with a dual mode of action, also acting as an inhibitor of hERG1 channels. It activates the IKr and Ito currents and exhibits an antiarrhythmic effect.
Targets(IC50)	Potassium Channel
In vitro	Administering NS3623 (5 μM) significantly enhances the tail current magnitude in isolated canine cardiomyocytes, corroborating earlier evidence that this compound augments IKr. Specifically, NS3623 boosts IKr tail currents by 60% in normal Mid cells and by 68% in cells cultured for 48 hours, at a +50 mV activating pulse. Furthermore, although the baseline IKr in cells cultured for 48 hours markedly declines compared to freshly isolated cells—from 0.47 ± 0.08 pA/pF to 0.28 ± 0.06 pA/pF—NS3623 application elevates IKr in these cultured Mid cells. An analysis of the current-voltage (I-V) relationship for IKr tail current reveals that NS3623 increases current density in Mid cells cultured for both one and two days.
In vivo	NS3623 (30 mg/kg; i.v.; lasting for 3 minutes) shortens the corrected QT interval by 25 ± 4% in anaesthetized guinea pigs. At 50 mg/kg, NS3623 immediately reduces the QTcF interval and remains significantly shortened for approximately 30 minutes, also shortening the QT interval by 30 ± 6% in conscious guinea pigs [1].

Solubility Information

Solubility	DMSO: 9.17 mg/mL (21.47 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: 1 mg/mL (2.34 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	2.3409 mL	11.7047 mL	23.4093 mL
5 mM	0.4682 mL	2.3409 mL	4.6819 mL
10 mM	0.2341 mL	1.1705 mL	2.3409 mL
50 mM	0.0468 mL	0.2341 mL	0.4682 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

Hansen RS, et al. In vivo effects of the IKr agonist NS3623 on cardiac electrophysiology of the guinea pig. J Cardiovasc Pharmacol. 2008 Jul;52(1):35-41.
Diness JG, et al. Antiarrhythmic effect of IKr activation in a cellular model of LQT3. Heart Rhythm. 2009 Jan;6(1):100-6.
Calloe K, et al. A dual potassium channel activator improves repolarization reserve and normalizes ventricular action potentials. Biochem Pharmacol. 2016 May 15;108:36-46.
Hansen RS, et al. Biophysical characterization of the new human ether-a-go-go-related gene channel opener NS3623 [N-(4-bromo-2-(1H-tetrazol-5-yl)-phenyl)-N'-(3'-trifluoromethylphenyl)urea]. Mol Pharmacol. 2006 Oct;70(4):1319-29.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481