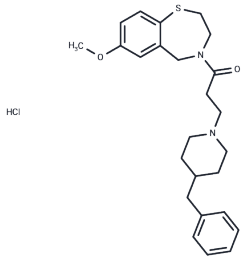
Data Sheet (Cat.No.T24239)

TargetMol

JTV-519

Chemical Properties



CAS No. : 1038410-88-6

Formula: C25H33ClN2O2S

Molecular Weight: 461.06

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	JTV-519 is a Ca2+-dependent blocker and prevents abnormal Ca(2+) leak from the sarcoplasmic reticulum in the ischemic heart and skeletal muscle (SkM) by stabilizing the ryanodine receptors.
Targets(IC50)	Calcium Channel
In vitro	In isolated cardiac and SkM SR microsomes, K201 slowed the rate of SR Ca(2+) loading, suggesting potential SERCA block and/or RyR agonism. K201 displayed Ca(2+)-dependent inhibition of SERCA-dependent ATPase activity, which was measured in microsomes incubated with 200, 2, and 0.25 μM Ca(2+) and with the half-maximal K201 inhibitory doses (IC50) estimated at 130, 19, and 9 μM (cardiac muscle) and 104, 13, and 5 μM (SkM SR). K201 (≥5 μM) increased RyR1-mediated Ca(2+) release from SkM microsomes. Maximal K201 doses at 80 μM produced 37% of the increase in SkM SR Ca (2+) release observed with the RyR agonist caffeine. K201 (≥5 μM) increased the open probability (Po) of very active ('high-activity') RyR1 of SkM reconstituted into bilayers, but it had no effect on 'low-activity' channels. Likewise, K201 activated cardiac RyR2 under systolic Ca(2+) conditions (5 μM; channels at Po 0.3) but not under diastolic Ca(2+) conditions (100 nM; Po < 0.01)[1].

Solubility Information

Solubility	DMSO: 25 mg/mL (54.22 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1689 mL	10.8446 mL	21.6892 mL
5 mM	0.4338 mL	2.1689 mL	4.3378 mL
10 mM	0.2169 mL	1.0845 mL	2.1689 mL
50 mM	0.0434 mL	0.2169 mL	0.4338 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

Darcy YL, Diaz-Sylvester PL, Copello JA. K201 (JTV519) is a Ca2+-Dependent Blocker of SERCA and a Partial Agonist of Ryanodine Receptors in Striated Muscle. Mol Pharmacol. 2016 Aug;90(2):106-15.
Toischer K, et al. K201 improves aspects of the contractile performance of human failing myocardium via reduction in Ca2+ leak from the sarcoplasmic reticulum. Basic Res Cardiol. 2010 Mar;105(2):279-87.