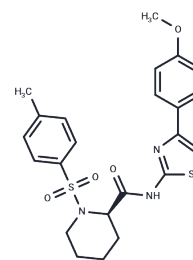


ML277

Chemical Properties

CAS No. : 1401242-74-7
 Formula: C₂₃H₂₅N₃O₄S₂
 Molecular Weight: 471.59
 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	ML277 (CID-53347902) was identified as a potent activator of KCNQ1 channels (EC ₅₀) =260 nM).
Targets(IC ₅₀)	Potassium Channel
In vitro	ML277(CID53347902) is a novel, potent and selective K(v)7.1 (KCNQ1) potassium channel activator with EC ₅₀ of 270 nM. IC ₅₀ value: 270 nM (EC ₅₀) [1] Target: K(v)7.1 activator ML277 was shown to be highly selective against other KCNQ channels (>100-fold selectivity versus KCNQ2 and KCNQ4) as well as against the distantly related hERG potassium channel[1].

Solubility Information

Solubility	DMSO: 60 mg/mL (127.23 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (5.3 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1205 mL	10.6024 mL	21.2049 mL
5 mM	0.4241 mL	2.1205 mL	4.241 mL
10 mM	0.212 mL	1.0602 mL	2.1205 mL
50 mM	0.0424 mL	0.212 mL	0.4241 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

Mattmann ME, Yu H, Lin Z, et al. Identification of (R)-N-(4-(4-methoxyphenyl)thiazol-2-yl)-1-tosylpiperidine-2-carboxamide, ML277, as a novel, potent and selective K(v)7.1 (KCNQ1) potassium channel activator. *Bioorg Med Chem Lett.* 2012;22(18):5936-5941. doi:10.1016/j.bmcl.2012.07.060

Robbins J, et al. *Pharmacol Ther.* 2001 Apr;90(1):1-19.

Mattmann ME, et al. *Bioorg Med Chem Lett.* 2012 Sep 15;22(18):5936-41.

Yu H, et al. *Proc Natl Acad Sci U S A.* 2013 May 21;110(21):8732-7.

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