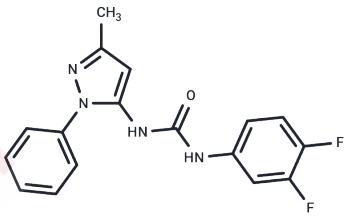
Data Sheet (Cat.No.T4664)

TargetMol

ML 297

Chemical Properties



CAS No. : 1443246-62-5

Formula: C17H14F2N4O

Molecular Weight: 328.32

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	ML 297 is a selective Kir3.1/3.2 (GIRK1/2) channel activator (IC50 values are 160, 887 and 914 nM for GIRK1/2, GIRK1/4 and GIRK1/3 respectively). ML 297 exhibits no effect on GIRK2, GIRK2/3, Kir2.1 and Kv7.4 channels, and has minimal effect on a panel of other ion channels, receptors and transporters.
Targets(IC50)	Potassium Channel

Solubility Information

Solubility	DMSO: 235 mg/mL (715.77 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (30.46 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (30.46 mM),Solution. *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	3.0458 mL	15.229 mL	30.4581 mL
5 mM	0.6092 mL	3.0458 mL	6.0916 mL
10 mM	0.3046 mL	1.5229 mL	3.0458 mL
50 mM	0.0609 mL	0.3046 mL	0.6092 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

Nimitvilai S, Lopez MF, Mulholland PJ, Woodward JJ. Ethanol Dependence Abolishes Monoamine and GIRK (Kir3) Channel Inhibition of Orbitofrontal Cortex Excitability. Neuropsychopharmacology. 2017 Aug;42(9):1800-1812.
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Wydeven N, Marron Fernandez de Velasco E, Du Y, Benneyworth MA, Hearing MC, Fischer RA, Thomas MJ, Weaver CD, Wickman K. Mechanisms underlying the activation of G-protein-gated inwardly rectifying K+ (GIRK) channels by the novel anxiolytic drug, ML297. Proc Natl Acad Sci U S A. 2014 Jul 22;111(29):10755-60.
Psichas A, Glass LL, Sharp SJ, Reimann F, Gribble FM. Galanin inhibits GLP-1 and GIP secretion via the GAL1 receptor in enteroendocrine L and K cells. Br J Pharmacol. 2016 Mar;173(5):888-98.
Kaufmann K, Romaine I, Days E, Pascual C, Malik A, Yang L, Zou B, Du Y, Sliwoski G, Morrison RD, Denton J, Niswender CM, Daniels JS, Sulikowski GA, Xie XS, Lindsley CW, Weaver CD. ML297 (VU0456810), the first potent and selective activator of the GIRK potassium channel, displays antiepileptic properties in mice. ACS Chem Neurosci. 2013 Sep 18;4(9):1278-86.