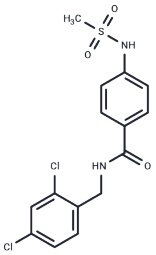
Data Sheet (Cat.No.T4224)

TargetMol

ML335

Chemical Properties



CAS No. : 825658-06-8

Formula: C15H14Cl2N2O3S

Molecular Weight: 373.25

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	ML335 is a selective activator of TREK-1 and TREK-2.
Targets(IC50)	Potassium Channel
In vitro	Xenopus oocyte two-electrode voltage-clamp measurements indicate that ML335 and ML402 activate K2P2.1 and K2P10.1, but not K2P4.1 (14.3±2.7 μM for K2P2.1-ML335; 13.7 ±7.0 μM for K2P2.1-ML402; 5.2±0.5 μM for K2P10.1-ML335; and 5.9±1.6 μM for K2P10.1-ML402). Swapping the Lys271 equivalent between K2P2.1 and K2P4.1 results in a reversed phenotype for ML335 and ML402 activation. ML335 and ML402 also activate K2P2.1 in HEK293 cells in a manner similar to their effects in Xenopus oocytes (5.2±0.8 μM and 5.9±1.6 μM for ML335 and ML402, respectively [n≥3]).
Cell Research	Mouse K2P2.1, human K2P4.1, and mutants are expressed from a previously described pIRES2-EGFP vector in HEK293T cells (ATTC). 70% confluent cells are transfected (in 35-mm diameter wells) with LipofectAMINE 2000 for 6?h, and plated onto coverslips coated with Matrigel. Effects of ML335, ML402 and arachidonic acid on K2P2.1 current at 0?mV are measured by whole-cell patch-clamp experiments 24?h after transfection. Acquisition and analysis are performed using pCLAMP9 and an Axopatch 200B amplifier. Pipette resistance ranges from 1 to 1.5?MΩ. Pipette solution contains the following: 145?mM KCl, 3?mM MgCl2, 5?mM EGTA and 20?mM HEPES (pH 7.2 with KOH). Bath solution contains the following: 145?mM NaCl, 5?mM KCl, 1?mM CaCl2, 3?mM MgCl2 and 20?mM HEPES (pH 7.4 with NaOH). K2P2.1 currents are elicited by a 1?s ramp from -100 to +50?mV from a -80?mV holding potential. After stabilization of the basal current, ML335 and ML402 are perfused at 200?mL per hour until potentiation is stably reached[1].

Solubility Information

Solubility	DMSO: 45 mg/mL (120.56 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (5.36 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	2.6792 mL	13.3958 mL	26.7917 mL
5 mM	0.5358 mL	2.6792 mL	5.3583 mL
10 mM	0.2679 mL	1.3396 mL	2.6792 mL
50 mM	0.0536 mL	0.2679 mL	0.5358 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

Lolicato M, et al. K2P2.1 (TREK-1)-activator complexes reveal a cryptic selectivity filter binding site. Nature. 2017 Jul 20;547(7663):364-368.