Product Data Sheet

Product Name: ML-178
Cat. No.: GC10433

Chemical Properties

Cas. No.	1355026-47-9		
Chemical Name	2,6-dibromo-3-[2-(2,4-dichlorophenoxy)ethoxy]-pyridine		
SMILES	ClC1=CC(Cl)=C(OCCOC2=C(Br)N=C(Br)C=C2)C=C1		
Formula	$C_{13}H_9Br_2Cl_2NO_2$	M.Wt	441.9
Solubility	≤15mg/ml in DMSO;30mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	ML-178		

Background

ML-178 is a novel and selective S1P4 activator with EC50 value of 46.3 nM [1].

Sphingosine-1-phosphate (S1P) is an extracellular lipid mediator released by activated blood platelets that serves to influence heart rate, coronary artery caliber, endothelial integrity, lung epithelial integrity and lymphocyte recirculation through five of the S1P receptors (S1P1/EDG-1, S1P2/EDG-5, S1P3/EDG-3, S1P4/EDG-6, and S1P5/EDG-8). S1P4 receptor is coupled to Gαi and Gαo G proteins and activates ERK, MAPK and PLC downstream pathways [1].

ML-178 is a novel and selective S1P4 activator. ML178 activated S1P4 receptor with an EC50 of 46.3 nM, and is inactive against other members of the receptor family, with EC50s > 50 μM against S1P1, S1P2, S1P3, and S1P5 receptors. ML178 was inhibited by an S1P4 receptor-selective antagonist with an IC50 of 0.83 μM. ML178 was nontoxic to U2OS cells with a CC50 of > 20 μM. ML178 was generally inactive against a broad array of off targets, including receptors, transporters, or ion channels [1].

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Reference:
[1]. Guerrero M, Urbano M, Velaparthi S, et al. Probe Development Efforts to Identify Novel Agonists of the Sphingosine 1-phosphate Receptor 4 (S1P4). Probe Reports from the NIH Molecular Libraries Program [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2010-.2010 Oct 12 [updated 2011 Dec 12].

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