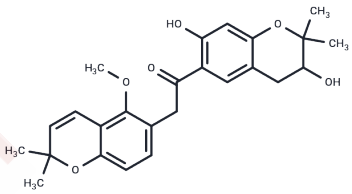
Data Sheet (Cat.No.T11044)

TargetMol

Dihydromunduletone

Chemical Properties



CAS No. : 674786-20-0

Formula: C25H28O6

Molecular Weight: 424.49

Appearance: no data available

Storage: store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Dihydromunduletone (DHM) is an adhesion G protein-coupled receptor (aGPCR) antagonist that acts as a chemical probe for the inhibition of GPR56 and GPR114/ADGRG5, which have similar tethered agonists.
Targets(IC50)	GPCR
In vitro	Assays commence with the addition of [35S]GTPγS, and the rates of aGPCR-stimulated G protein activation (Gα binding to [35S]GTPγS) are assessed with or without added compounds. Dihydromunduletone (DHM) significantly inhibits the kinetics of GPR56 7TM-stimulated G13 GTPγS binding, reducing activation by over 75%. At 50 μM DHM maximally inhibits GPR56 and dramatically reduces GPR114 7TM-stimulated Gs activity, but fails to inhibit GPR110 7TM stimulation of Gq GTPγS binding. Cells transfected with GPR56 A386M 7TM show concentration-dependent inhibition of P7 peptide-induced luciferase activity by DHM. Additionally, 3 μM DHM blunts P7 peptide activation at all concentrations. In conclusion, DHM antagonizes synthetic-peptide and tethered-peptide agonist-mediated aGPCR activation in isolated membranes and HEK293T cell-based assays but does not inhibit basal receptor signaling.

Solubility Information

Solubility	DMSO: 20 mg/mL (47.12 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3558 mL	11.7788 mL	23.5577 mL
5 mM	0.4712 mL	2.3558 mL	4.7115 mL
10 mM	0.2356 mL	1.1779 mL	2.3558 mL
50 mM	0.0471 mL	0.2356 mL	0.4712 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.

Reference

Hannah M. Stoveken, et al. Dihydromunduletone Is a Small-Molecule Selective Adhesion G Protein-Coupled Receptor Antagonist. Mol Pharmacol. 2016 Sep; 90(3): 214-224.