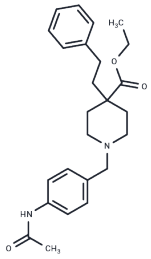
Data Sheet (Cat.No.T23002)

TargetMol

ML-335

Chemical Properties



CAS No. : 1069498-96-9

Formula: C25H32N2O3

Molecular Weight: 408.53

Storage: Pure form: -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-335 is a μ-δ isomer-targeted agonist, a μOR-δOR-biased ligand that can serve as a scaffold for the development of unique types of (isomer-biased) drugs.ML-335 is a MOR (μ-opioid receptor)/DOR (δ-opioid receptor) heterodimer, with anti-injury sensory activity and pain inhibitory activity.
Targets(IC50)	Opioid Receptor
In vivo	CYM51010 (ML-335) (subcutaneous injection; SNL rats) inhibited mechanical hypersensitivity in a dose-related manner (EC50: 1.09 mg/kg) and also reversed heat hyperalgesia and attenuated ongoing pain (2 mg/kg, subcutaneously)[1].

Solubility Information

Solubility	DMSO: 9 mg/mL (22.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.45 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	2.4478 mL	12.239 mL	24.478 mL
5 mM	0.4896 mL	2.4478 mL	4.8956 mL
10 mM	0.2448 mL	1.2239 mL	2.4478 mL
50 mM	0.049 mL	0.2448 mL	0.4896 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

Pinello C, et al. Characterization of an agonist probe for opioid receptor mu 1 (OPRM1)-opioid receptor delta 1 (OPRD1) heterodimerization. Bethesda (MD): National Center for Biotechnology Information (US); December 17, 2012.

Tiwari V, et al. Activation of μ-δ opioid receptor heteromers inhibits neuropathic pain behavior in rodents. Pain. 2020;161(4):842-855.

Gomes I, et al. Identification of a μ-δ opioid receptor heteromer-biased agonist with antinociceptive activity. Proc Natl Acad Sci U S A. 2013;110(29):12072-12077.

Requana Aradas A, et al. Activation of the mu-delta opioid receptor heteromers blocks morphine rewarding effects. Int J Neuropsychopharmacol. 2023;pyad032.

Faouzi A, et al. Synthesis and Pharmacology of a Novel μ-δ Opioid Receptor Heteromer-Selective Agonist Based on the Carfentanyl Template. J Med Chem. 2020;63(22):13618-13637.