

ML-109

Chemical Properties

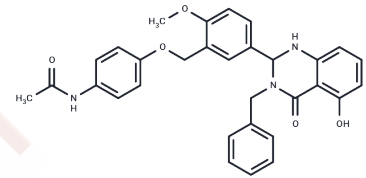
CAS No. : 1186649-91-1

Formula: C₃₁H₂₉N₃O₅

Molecular Weight: 523.58

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-109 is a potent agonist of thyroid stimulating hormone receptor (TSHR) (EC ₅₀ of 40 nM)
Targets(IC ₅₀)	TSH Receptor
In vitro	ML-109 is a full agonist at TSHR with an EC ₅₀ of 40 nM ,has no activity at FSHR or LHCGR.

Solubility Information

Solubility	DMSO: 83.33 mg/mL (159.15 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: 3.3 mg/mL (6.3 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9099 mL	9.5496 mL	19.0993 mL
5 mM	0.382 mL	1.9099 mL	3.8199 mL
10 mM	0.191 mL	0.955 mL	1.9099 mL
50 mM	0.0382 mL	0.191 mL	0.382 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

Neumann S, et al. Small-molecule agonists for the thyrotropin receptor stimulate thyroid function in human thyrocytes and mice. *Proc Natl Acad Sci U S A*. 2009 Jul 28;106(30):12471-6.

Duan J, Xu P, Luan X, et al. Hormone- and antibody-mediated activation of the thyrotropin receptor. *Nature*. 2022: 1-3.

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