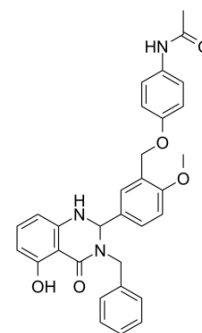


ML-109

Cat. No.:	HY-114116		
CAS No.:	1186649-91-1		
Molecular Formula:	C ₃₁ H ₂₉ N ₃ O ₅		
Molecular Weight:	523.58		
Target:	TSH Receptor		
Pathway:	GPCR/G Protein		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (159.15 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.9099 mL	9.5496 mL	19.0993 mL
	5 mM	0.3820 mL	1.9099 mL	3.8199 mL
	10 mM	0.1910 mL	0.9550 mL	1.9099 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: **10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline**
Solubility: ≥ 2.17 mg/mL (4.14 mM); Clear solution
- Add each solvent one by one: **10% DMSO >> 90% (20% SBE-β-CD in saline)**
Solubility: ≥ 2.17 mg/mL (4.14 mM); Clear solution
- Add each solvent one by one: **10% DMSO >> 90% corn oil**
Solubility: ≥ 2.17 mg/mL (4.14 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ML-109 is a potent and full thyroid stimulating hormone receptor (TSHR) agonist, with an EC₅₀ of 40 nM.

IC₅₀ & Target

EC₅₀: 40 nM (TSHR)^[1].

In Vitro

ML-109 (Compound 2) is a full agonist at TSHR with an EC₅₀ of 40 nM and, like compound 1, it has no activity at FSHR or LHCGR. ML-109 contains an aminal, a functional group that is subject to hydrolysis and/or other degradation

mechanisms. ML-109 is surprisingly stable at neutral and basic conditions ($t_{1/2}$ of ~16 h) but is found to degrade at low pH ($t_{1/2}$ of ~3 h)^[1].

REFERENCES

[1]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA