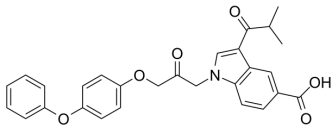
CAY10650

Cat. No.:	HY-10801
CAS No.:	1233706-88-1
Molecular Formula:	$C_{28}H_{25}NO_6$
Molecular Weight:	471.5
Target:	Phospholipase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (212.09 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1209 mL	10.6045 mL	21.2089 mL
5 mM	0.4242 mL	2.1209 mL	4.2418 mL
10 mM	0.2121 mL	1.0604 mL	2.1209 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.30 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.30 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.30 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CAY10650 is a highly potent cytosolic phospholipase A2α (cPLA2α) inhibitor with an IC_{50} value of 12 nM. CAY10650 suppresses lipid droplets formation and PGE2 secretion[1][2].

In Vitro

CAY10650 (12 nM; 30 min; neutrophils) inhibits the expression of the phosphorylated cPLA2-α (p-cPLA2-α) in cells[1].
CAY10650 (12 nM; 2 h; neutrophils) inhibits PGE2 release in neutrophils[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Neutrophils
Concentration:	12 nM
Incubation Time:	30 minutes
Result:	Inhibited cPLA2-α and inhibited the expression of the p-cPLA2-α.

Western Blot Analysis[1]

Cell Line:	Neutrophils
Concentration:	12 nM
Incubation Time:	2 hours
Result:	Inhibited the PGE_2 secretion and inhibited PGE_2 realease.

In Vivo

CAY10650 (50 μg/5 μL; Inject with topical eye-drop; Chinese hamsters) relieves acanthamoeba keratitis in vivo.[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Chinese hamsters with infected with parasite-laden contact lenses[1]
Dosage:	50 μg/5 μL
Administration:	Inject with topical eye-drop under the contact lens; three times a day for 6 days and topically on days 7 to 20 postinfection
Result:	Reduced the severity of the keratitis and hasten the onset of resolution. Had little mild inflammation and very few PMNs infiltration in the corneal stroma.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2022 Sep 14;e2203995.
- Exp Mol Med. 2023 Mar 3.
- JCI Insight. 2021 Sep 7;151911.
- Korean J Physiol Pharmacol. 2021 Mar 1;25(2):159-166.
- Oxid Med Cell Longev. 2022 Jun 20;2022:5905374.

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REFERENCES

[1]. Paloschi MV, et, al. Cytosolic phospholipase A2-α participates in lipid body formation and PGE2 release in human neutrophils stimulated with an L-amino acid oxidase from Calloselasma rhodostoma venom. Sci Rep. 2020 Jul 3;10(1):10976.

[2]. Tripathi T, et, al. Role of phospholipase A_2 (PLA_2) inhibitors in attenuating apoptosis of the corneal epithelial cells and mitigation of Acanthamoeba keratitis. Exp Eye Res. 2013 Aug;113:182-91.

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

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