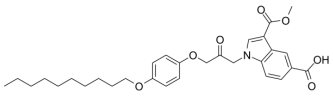
CAY10502

Cat. No.:	HY-116301
CAS No.:	888320-29-4
Molecular Formula:	$C_{30}H_{37}NO_7$
Molecular Weight:	523.62
Target:	Phospholipase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 12.5 mg/mL (23.87 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9098 mL	9.5489 mL	19.0978 mL
	5 mM	0.3820 mL	1.9098 mL	3.8196 mL
	10 mM	0.1910 mL	0.9549 mL	1.9098 mL

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

BIOLOGICAL ACTIVITY

Description

CAY10502 is a potent, calcium-dependent cytosolic phospholipase A2 α (cPLA$_2$α) inhibitor with an IC_{50} of 4.3 nM for isolated enzyme. CAY10502 can be used in the research of retinopathy and inflammatory diseases[1][2][3].

IC_{50} & Target

cPLA2α
4.3 nM (IC_{50})

In Vitro

CAY10502 inhibits the release of arachidonic acid mediated by cPLA2R stimulanted with A23187 and TPA in human platelets, with IC_{50}s of 0.57 and 0.0009 μM, respectively[1].

CAY10502 (5, 20, 50 nM; 12 hours; müller cells) inhibits normoxic- and hypoxia-induced Prostaglandin E_2 (PGE_2) and VEGF production[2].

CAY10502 (0.1-100 nM; 24 hours) inhibits the VEGF-induced proliferation of rat retinal microvascular endothelial cells (RRMEC)[2].

CAY10502 (10 μM) inhibits arachidonic acid (AA) release from the phospholipid pools, abrogated extremely low-frequency electromagnetic fields (ELF-EMF; 1 h) induced AA increase and the ELF-EMF inhibitory effect of Cav3.2 channels[3].

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

Cell Proliferation Assay[2]

Cell Line:	RRMEC
Concentration:	0.1-100 nM
Incubation Time:	24 hours
Result:	CAY10502 (35, 50 nM) demonstrated significant reductions in VEGF-induced proliferation (64.3% and 84.1%, respectively) compared with cultures treated with VEGF alone.

In Vivo

CAY10502-injected (2.5, 25, 100 nM; 5 µL) eyes demonstrates a dose-dependent inhibition of retinal neovascularization (NV) in rat oxygen-induced retinopathy (OIR)[2].

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

Animal Model:	OIR and room air (RA) Sprague-Dawley rat[2]
Dosage:	2.5, 25, 100 nM; 5 µL
Administration:	Intravitreal Injection
Result:	Injection of 100 nM CAY10502 resulted in a 53.1% reduction in NV compared with vehicle treatment.

REFERENCES

[1]. Pohjala L L, et al. Interference by bovine serum albumin in PED6 based phospholipase A2 screening assays[J]. Die Pharmazie, 2012.

[2]. Barnett JM, et al. Role of cytosolic phospholipase A(2) in retinal neovascularization. Invest Ophthalmol Vis Sci. 2010;51(2):1136-1142.

[3]. Cui Y, et al. Exposure to extremely low-frequency electromagnetic fields inhibits T-type calcium channels via AA/LTE4 signaling pathway. Cell Calcium. 2014 Jan;55(1):48-58.

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