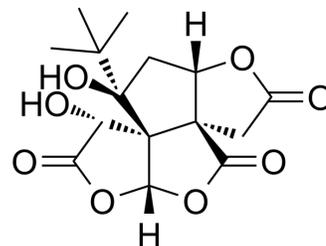


Bilobalide

Cat. No.:	HY-N0076		
CAS No.:	33570-04-6		
Molecular Formula:	C ₁₅ H ₁₈ O ₈		
Molecular Weight:	326.3		
Target:	Autophagy; Endogenous Metabolite; Apoptosis		
Pathway:	Autophagy; Metabolic Enzyme/Protease; Apoptosis		
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 (306.47 mM)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		3.0647 mL	15.3233 mL	30.6466 mL
	5 mM		0.6129 mL	3.0647 mL	6.1293 mL
	10 mM		0.3065 mL	1.5323 mL	3.0647 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: ≥ 2.08 mg/mL (6.37 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.08 mg/mL (6.37 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.08 mg/mL (6.37 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bilobalide, a sesquiterpene trilactone constituent of Ginkgo biloba, inhibits the NMDA-induced efflux of choline with an IC₅₀ value of 2.3 μM. Bilobalide prevents apoptosis through activation of the PI3K/Akt pathway in SH-SY5Y cells. Exerts protective and trophic effects on neurons^{[1][2]}.

IC₅₀ & Target

Human Endogenous Metabolite

In Vitro

Bilobalide (1-100 μM) completely suppresses the NMDA-evoked release of choline in a concentration-dependent manner with IC_{50} value of 2.3 μM ^[1].
Bilobalide (1, 5 and 10 μM) alone for 24 h does not affect cell viability of SH-SY5Y cells. Pre-treatment of cells with Bilobalide concentration-dependently prevents $\text{A}\beta$ 1-42-, H_2O_2 - and serum deprivation-induced decrease of cell viability, with the best protective effect obtained at 10 μM ^[2].
Bilobalide (5 and 10 μM ; 24 h) treatment dose-dependently increases levels of p-Akt (Ser473 and Thr308) in SH-SY5Y cells^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis

Cell Line:	SH-SY5Y cells
Concentration:	5 and 10 μM
Incubation Time:	24 hours
Result:	Induced a significant increase in levels of p-Akt (Ser473 and Thr308).

In Vivo

Bilobalide (20 mg/kg) completely suppresses the NMDA-induced release of choline in vivo while basal choline levels were not significantly affected. NMDA causes a release of choline in vivo when infused into the hippocampus of freely moving rats by retrograde dialysis. Bilobalide (20 mg/kg i.p.) completely inhibits the effect induced by NMDA^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Wistar rats (250-350 g) ^[1]
Dosage:	20 mg/kg
Administration:	I.p. injection 60 min before NMDA infusion
Result:	Lowered basal choline efflux only slightly (by 7%) but fully antagonized the NMDA-induced increase of choline release. The convulsive effect of NMDA was almost completely suppressed.

CUSTOMER VALIDATION

- Research Square Preprint. 2021 Aug.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. O Weichel, et al. Bilobalide, a constituent of Ginkgo biloba, inhibits NMDA-induced phospholipase A2 activation and phospholipid breakdown in rat hippocampus. Naunyn Schmiedebergs Arch Pharmacol. 1999 Dec;360(6):609-15.

[2]. Chun Shi, et al. Bilobalide prevents apoptosis through activation of the PI3K/Akt pathway in SH-SY5Y cells. Apoptosis. 2010 Jun;15(6):715-27.

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

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