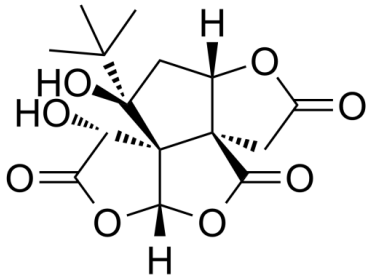
Data Sheet

Product Name:	Bilobalide
Cat. No.:	CS-1517
CAS No.:	33570-04-6
Molecular Formula:	C15H18O8
Molecular Weight:	326.30
Target:	Autophagy
Pathway:	Autophagy
Solubility:	DMSO : ≥ 100 mg/mL (306.47 mM)



BIOLOGICAL ACTIVITY:

Bilobalide is a biologically active terpenic trilactone present in Ginkgo biloba. An increasing number of studies have demonstrated its neuroprotective effects. IC50 Value: 3.33 (pIC50 Value) [1] Target: neuroprotective in vitro: Inhibition by BB and GB was abolished in mutant receptors containing T6'S and S12'A substitutions, but their potencies were enhanced (42- and 125-fold, respectively) in S2'A mutant receptors [1]. BB enhanced the secretion of α-secretase-cleaved soluble amyloid precursor protein (sAPPα, a by-product of non-amyloidogenic processing of APP) and decreased the β amyloid protein (Aβ, a by-product of amyloidogenic processing of APP) via PI3K-dependent pathway [2]. in vivo: Oral administration of bilobalide (10-30 mg/kg) significantly inhibited thermal hyperalgesia in response to carrageenan, capsaicin and paw incision, independent of dose, with an efficacy similar to that of diclofenac. In the carrageenan model, mechanical hypersensitivity and paw oedema were also significantly reduced after treatment with bilobalide (10-30 mg/kg) [3]. BB(4 and 8 mg/kg) significantly protected VD rats against cognitive deficits in the Morris water maze. Biochemical assessment showed that BB (4 and 8 mg/kg) increased superoxide dismutase (SOD) activity and glutathione (GSH) content, and decreased nitric oxide synthase (NOS) activity and malondialdehyde (MDA) content [4]. Clinical trial: N/A

References:

[1]. Binding sites for bilobalide, diltiazem, ginkgolide, and picrotoxinin at the 5-HT3 receptor. Mol Pharmacol. 2011 Jul;80(1):183-90.

[2]. Shi C, Wu F, Xu J, Bilobalide regulates soluble amyloid precursor protein release via phosphatidyl inositol 3 kinase-dependent pathway. Neurochem Int. 2011 Aug;59(1):59-64.

[3]. Goldie M, Dolan S. Bilobalide, a unique constituent of Ginkgo biloba, inhibits inflammatory pain in rats. Behav Pharmacol. 2013 Aug;24(4):298-306.

[4]. Li WZ, Wu WY, Huang H, Protective effect of bilobalide on learning and memory impairment in rats with vascular dementia. Mol Med Rep. 2013 Sep;8(3):935-41.

CAIndexNames:

4H,5aH,9H-Furo[2,3-b]furo[3',2':2,3]cyclopenta[1,2-c]furan-2,4,7(3H,8H)-trione, 9-(1,1-dimethylethyl)-10,10a-dihydro-8,9-dihydroxy-, (3aS,5aR,8R,8aS,9R,10aS)-

SMILES:

O=C(O1)C[C@@]2([C@]1([H])C[C@]3(C(C)(C)C)O)[C@@]34[C@](OC([C@@H]4O)=O)([H])OC2=O

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

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