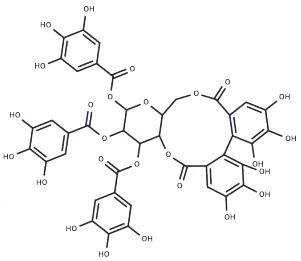
Data Sheet (Cat.No.T40924)

TargetMol

Tellimagrandin II

Chemical Properties



CAS No. : 81571-72-4

Formula: C41H30O26

Molecular Weight: 938.67

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Tellimagrandin II is an orally active natural product exhibiting inhibitory activity against methicillin-resistant Staphylococcus aureus, while also inhibiting AchE and improving memory impairment.
Targets(IC50)	Antibacterial,Cholinesterase (ChE)
In vitro	Treatment with Tellimagrandin II at a concentration of 40 μg/mL for 24 hours can disrupt the cell wall integrity of Staphylococcus aureus [2]. In methicillin-resistant Staphylococcus aureus, treatment with Tellimagrandin II (40 μg/mL) for 5 hours significantly reduces the transcriptional level of the mecA gene and the expression of PBP2a protein [2]. In RAW264.7 macrophages, Tellimagrandin II (50 μM) treatment for 6 hours markedly inhibits LPS-induced nitric oxide production and downregulates the mRNA and protein expression of NOS2 [3]. Treatment with Tellimagrandin II (25 or 50 μM) for 12 hours effectively reduces LPS-stimulated COX-2 protein expression and prostaglandin E2 synthesis in RAW264.7 macrophages [3]. Tellimagrandin II (12.5-50 μM) exhibits significant inhibitory activity against acetylcholinesterase after 10 minutes of incubation, with an IC50 value of 18.6 μM [4].
In vivo	In the scopolamine-induced amnesic ICR mouse model, Tellimagrandin II (100 and 200 mg/kg, p.o., once daily for 10 days) significantly improved learning and memory functions in the passive avoidance test and water maze test [4].

Solubility Information

Solubility	DMSO: 80.00 mg/mL (85.23 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.0653 mL	5.3267 mL	10.6534 mL
5 mM	0.2131 mL	1.0653 mL	2.1307 mL
10 mM	0.1065 mL	0.5327 mL	1.0653 mL
50 mM	0.0213 mL	0.1065 mL	0.2131 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ruth Niemetz, et al. Oxidation of pentagalloylglucose to the ellagitannin, tellimagrandin II, by a phenol oxidase from Tellima grandiflora leaves. Phytochemistry. 2003 Feb;62(3):301-6.
Yu-Wei Chang, et al. Tellimagrandin II, A Type of Plant Polyphenol Extracted from Trapa bispinosa Inhibits Antibiotic Resistance of Drug-Resistant Staphylococcus aureus. Int J Mol Sci. 2019 Nov 18;20(22):5790.
Lin CY, et al. Lipopolysaccharide-Induced Nitric Oxide and Prostaglandin E2 Production Is Inhibited by Tellimagrandin II in Mouse and Human Macrophages. Life (Basel). 2021 Apr 30;11(5):411.
Chen LG, et al. Hydrolysable Tannins Exhibit Acetylcholinesterase Inhibitory and Anti-Glycation Activities In Vitro and Learning and Memory Function Improvements in Scopolamine-Induced Amnesiac Mice. Biomedicines. 2021 Aug 23;9(8):1066.

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