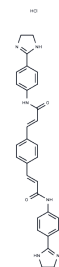


GW4869

Chemical Properties

CAS No. : 6823-69-4
 Formula: C₃₀H₃₀Cl₂N₆O₂
 Molecular Weight: 577.5
 Storage: 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	GW4869 (GW69A) is a selective and non-competitive inhibitor of neutral sphingomyelinase N-SMase (IC ₅₀ =1 μM). GW4869 also inhibits exosome synthesis/release and is commonly used in exosome-related studies. Usually prepared as a suspension for experiments.
Targets(IC ₅₀)	Phospholipase
In vitro	<p>METHODS: Human breast cancer cells MCF-7 were pretreated with GW4869 (10 μM) for 30 min, then incubated with TNF (3 nM) for 6-24 h. Ceramide levels were detected by E. coli diacylglycerol kinase assay.</p> <p>RESULTS: GW4869 significantly inhibited TNF-induced ceramide accumulation, and GW4869 inhibited N-SMase. [1]</p> <p>METHODS: Macrophage RAW264.7 was pretreated with GW4869 (10-20 μM) for 2 h, and then incubated with LPS (1 μg/mL) for 24 h. AChE activity was measured.</p> <p>RESULTS: After pretreatment of macrophages with 10 μM GW4869, LPS-triggered exocytosis was significantly attenuated in macrophages, and the activity of AChE was reduced by 22%. Treatment with 20 μM GW4869 further enhanced this attenuation. [2]</p>
In vivo	<p>METHODS: To detect in vivo activity, GW4869 (2.5 μg/g) was injected intraperitoneally into C57BL/6 mice, and LPS (25 μg/g) was injected 1 h later.</p> <p>RESULTS: Pretreatment of mice with GW4869 attenuated LPS-triggered production of exosomes and pro-inflammatory cytokines in the blood, thereby reducing myocardial inflammation. [2]</p> <p>METHODS: To assay in vivo activity, GW4869 (200 μL of 0.3 mg/mL, 2-2.5 μg/g) was administered intraperitoneally to 5XFAD mice every two days for six weeks.</p> <p>RESULTS: GW4869 reduced amyloid plaque formation in vivo by blocking exosome secretion. [3]</p>
Kinase Assay	B. cereu sphosphatidylcholine-PLC is incubated in the presence or absence of 10 μM GW4869 in a reaction mixture containing 100 mM Tris, pH 7.2, 25% glycerol, 20 mM p-nitrophenyl/phosphorylcholine, and production of p-nitrophenol is quantified spectrophotometrically at 410 nm. Protein phosphatase 2A from bovine kidney is incubated in the presence or absence of GW4869 in buffer containing 50 mM Tris, pH 7.4, 1 mM dithiothreitol, 100 μM MnCl ₂ , and 20% glycerol, and phosphatase activity is measured[1].

A DRUG SCREENING EXPERT

Cell Research	GW4869 is routinely stored at -80°C as a 1.5 mM stock suspension in Me2SO. Right before use, the suspension is solubilized by the addition of 5% methane sulfonic acid (MSA) (2.5 µL of 5% MSA in sterile double-distilled Water are added to 50 µL of GW4869 stock suspension). Cells are treated with GW4869 for 30 min and then TNF is added in 10 µL/well. At the indicated time points, 25 µL of MTT stock solution are added to each well and incubated at 37°C in 5% CO2 for 3 h. The cell viability is using the MTT assay[1].
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Solubility Information

Solubility	DMSO: 5.78 mg/mL (10.01 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	PBS: < 1 mg/mL (insoluble) <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7316 mL	8.658 mL	17.316 mL
5 mM	0.3463 mL	1.7316 mL	3.4632 mL
10 mM	0.1732 mL	0.8658 mL	1.7316 mL
50 mM	0.0346 mL	0.1732 mL	0.3463 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

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