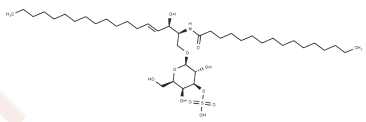
Data Sheet (Cat.No.T38179)

TargetMol

C16 3'-sulfo galactosylceramide (d18:1/16:0)

Chemical Properties



CAS No. : 89771-78-8

Formula: C40H77NO11S

Molecular Weight: 780.1

Storage: Store at low temperature
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	C16 3'-sulfo galactosylceramide (d18:1/16:0) is a sulfated glycolipid. C16 3'-sulfo galactosylceramide (d18:1/16:0) is a relatively abundant sulfide found in porcine brain and plasma that decreases throughout development in mice. C16 3'-sulfo galactosylceramide (d18:1/16:0) is a relatively abundant sulfide found in porcine brain and plasma that decreases throughout development in mice. C16 3'-sulfo galactosylceramide (d18:1/16:0) is a relatively abundant sulfide found in porcine brain and plasma that decreases throughout development in mice. C16 3'-sulfo galactosylceramide (d18:1/16:0) inhibits retinal ganglion cell growth in vitro. C16 3'-sulfo galactosylceramide (d18:1/16:0) has been used as an internal standard for quantifying C16 3'-sulfo galactosylceramide (d18:1/16:0) in rat cerebellum and white matter isolated from patients with multiple sclerosis. reference for sulphides.
Targets(IC50)	Others
In vitro	C16:0 sulfatide (20 nmol/ml) inhibits glucose-stimulated insulin secretion by reducing the sensitivity of the K(ATP) channels to ATP. (The half-maximal inhibitory concentration is 10.3 and 36.7 micromol/l in the absence and presence of C16:0 sulfatide, respectively.) [1] C16:0 sulfatide (20 nmol/ml for 30 min) increased whole-cell K(ATP) currents at intermediate glucose levels and reduced the ability of glucose to induce membrane depolarization, reduced electrical activity, and increased the cytoplasmic free Ca2+ concentration. Recordings of cell capacitance revealed that C16:0 sulfatide increased Ca2+-induced exocytosis by 215%. This correlated with a stimulation of insulin secretion by C16:0 sulfatide in intact rat islets exposed to diazoxide and high K+.[1] C16:0 sulfatide (20 nmol/l for 24 h) did not modulate glucagon secretion from intact rat islets.[1]
In vivo	C16:0 sulfatide (1 μmol/kg,1 mL ; Zucker rats) resulted in significantly elevated glucose-stimulated insulin secretion (60-80% increase, $p < 0.05$), without significant changes in glucose tolerance. The treatment was associated with an ameliorated first-phase insulin response (3-4-fold, $p = 0.009, 0.016$) and a 60% increase of pancreatic sulfatide content ($p = 0.001$), possible by an uptake of C16:0 sulfatide. The fasting hyperinsulinaemia and blood glucose levels were unchanged.[2]

Solubility Information

Solubility	Chloroform:Methanol (2:1): Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2819 mL	6.4094 mL	12.8189 mL
5 mM	0.2564 mL	1.2819 mL	2.5638 mL
10 mM	0.1282 mL	0.6409 mL	1.2819 mL
50 mM	0.0256 mL	0.1282 mL	0.2564 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

Buschard K, et al. C16:0 sulfatide inhibits insulin secretion in rat beta-cells by reducing the sensitivity of KATP channels to ATP inhibition. Diabetes. 2006 ; 55(10):2826-2834.
Blomqvist M, et al. In vivo administration of the C16:0 fatty acid isoform of sulfatide increases pancreatic sulfatide and enhances glucose-stimulated insulin secretion in Zucker fatty (fa/fa) rats. Diabetes Metab Res Rev. 2005 ; 21 (2):158-166.
Blomqvist M, et al. Selective lack of the C16:0 fatty acid isoform of sulfatide in pancreas of type II diabetic animal models. APMIS. 2003 ; 111(9):867-877.
Saxena K, et al. Unusual hydration properties of C16:0 sulfatide bilayer membranes. Biophys J. 2000 ; 79(1):385-393.
Buschard K, et al. The C24:0 Sulfatide Isoform as an Important Molecule in Type 1 Diabetes. Front Biosci (Landmark Ed). 2022 ; 27(12):331.

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