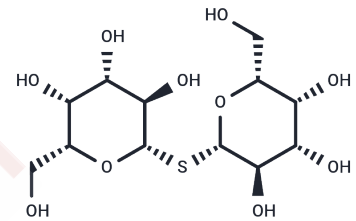


Thiodigalactoside

Chemical Properties

CAS No. :	51555-87-4
Formula:	C ₁₂ H ₂₂ O ₁₀ S
Molecular Weight:	358.36
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	Thiodigalactoside (TDG), a non-metabolizable disaccharide, serves as an orally active, potent galectin (GAL) inhibitor, exhibiting K _d values of 24 μM and 49 μM for GAL1 and GAL3, respectively. Demonstrating anti-inflammatory and anti-cancer properties, it significantly diminishes body weight gain in diet-induced obese rats.
Targets(IC50)	Galectin
In vitro	Thiodigalactoside (TDG; 250 and 500 μM) demonstrates a dose-dependent decrease in fat accumulation, as evidenced by reductions in triglyceride (TG) content and Oil Red O (ORO) staining[1].
In vivo	Thiodigalactoside (TDG; 5mg/kg; IP; once per week for 5 weeks) significantly inhibits HFD-induced body weight gain, whereas oral administration (5mg/kg; daily or weekly for 5 weeks) provides less reduction in body weight gain compared to IP administration [2].

Solubility Information

Solubility	PBS (pH 7.2): 10 mg/mL (27.9 mM),Sonication is recommended. H ₂ O: 90 mg/mL (251.14 mM),Sonication is recommended. DMF: 1 mg/mL (2.79 mM),Sonication is recommended. DMSO: 50 mg/mL (139.52 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7905 mL	13.9525 mL	27.9049 mL
5 mM	0.5581 mL	2.7905 mL	5.581 mL
10 mM	0.279 mL	1.3952 mL	2.7905 mL
50 mM	0.0558 mL	0.279 mL	0.5581 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

Hilde van Hattum, et al. Tuning the Preference of Thiodigalactoside- And Lactosamine-Based Ligands to galectin-3 Over galectin-1. *J Med Chem.* 2013 Feb 14;56(3):1350-4.

Varun V Prabhu, et al. Small-Molecule ONC201/TIC10 Targets Chemotherapy-Resistant Colorectal Cancer Stem-like Cells in an Akt/Foxo3a/TRAIL-Dependent Manner. *Cancer Res.* 2015 Apr 1;75(7):1423-32.

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