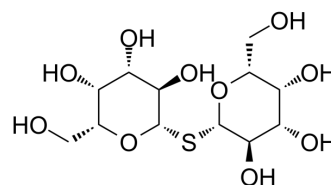


Thiodigalactoside

Cat. No.:	HY-130208
CAS No.:	51555-87-4
Molecular Formula:	C ₁₂ H ₂₂ O ₁₀ S
Molecular Weight:	358.36
Target:	Galectin
Pathway:	Immunology/Inflammation
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 100 mg/mL (279.05 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	2.7905 mL	13.9525 mL	27.9049 mL
				5 mM	0.5581 mL	2.7905 mL	5.5810 mL
				10 mM	0.2790 mL	1.3952 mL	2.7905 mL
Please refer to the solubility information to select the appropriate solvent.							
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (279.05 mM); Clear solution; Need ultrasonic						

BIOLOGICAL ACTIVITY

Description	Thiodigalactoside (TDG) is an orally active and potent galectin (GAL) inhibitor with K _d values of 24 μM, 49 μM for GAL1 and GAL3, respectively ^[1] . Thiodigalactoside, a non-metabolizable disaccharide, has anti-inflammatory and anti-cancer activity. Thiodigalactoside dramatically reduces body weight gain in diet-induced obese rats ^[2] .
IC ₅₀ & Target	Kd: 24 μM (GAL1) and 49 μM (GAL3) ^[1]
In Vitro	Thiodigalactoside (TDG; 250 and 500 μM) exhibits dose-dependent reduction of fat accumulation based on triglyceride (TG) content and Oil Red O (ORO) staining ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Thiodigalactoside (TDG; 5 mg/kg; IP; once per week for 5 weeks) results in dramatic inhibition of HFD-induced body weight gain ^[2] . Thiodigalactoside (5 mg/kg; oral; daily or weekly for 5 weeks) gave less reduction in body weight gain compare with i.p. ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Five-week-old Sprague-Dawley (SD) male rats ^[2]
Dosage:	5 mg/kg
Administration:	IP; once per week for 5 weeks
Result:	Resulted in dramatic inhibition of HFD-induced body weight gain by inhibiting adipogenesis and lipogenesis as well as by increasing expression of the proteins associated with thermogenesis and energy expenditure.

CUSTOMER VALIDATION

- Osteoarthritis Cartilage. 2023 Jan 23;S1063-4584(23)00026-2.
- iScience. 2023 Mar.

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REFERENCES

[1]. 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.

[2]. 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.

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

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