2-Deoxy-D-galactose

Cat. No.: HY-131892

CAS No.: 1949-89-9

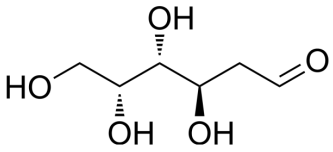
Molecular Formula: $C_6H_{12}O_5$

Molecular Weight: 164.16

Target: Others

Pathway: Others

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 250 mg/mL (1522.90 mM; Need ultrasonic)
Methanol : 125 mg/mL (761.45 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	6.0916 mL	30.4581 mL	60.9162 mL
5 mM	1.2183 mL	6.0916 mL	12.1832 mL
10 mM	0.6092 mL	3.0458 mL	6.0916 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

2-Deoxy-D-galactose is a glucose analog. 2-Deoxy-D-galactose inhibits glycolysis to inhibits tumor growth. 2-Deoxy-D-galactose is a substance interfering with the fucosylation of glycomacromolecules and impairing memory consolidation in various learning tasks. 2-Deoxy-d-galactose hinders glycoprotein fucosylation in vivo[1].

In Vitro

2-Deoxy-D-galactose (1 mM/L; 5 h) is rapid phosphorylation during the first 30 min and decreases to approximately 20% of this rate during the subsequent hours in ascites hepatoma cells[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

2-Deoxy-D-galactose (380 mg/kg; i.p.; for 6 times) strongly decreases contents of UMP, UDPG, and UDP galactose in rat livers [1].

2-Deoxy-D-galactose (2-8 μM; intracerebroventricularly injection; once) shows PAR impairment 30 min before the acquisition trial a dose of 4 μM and 15 min delay after do-gal administration[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male adult Wistar rats with passive avoidance response (PAR) acquisition trial[3]
Dosage:	2, 4 and 8 μM
Administration:	Intracerebroventricularly injection; 2-8 μM; once
Result:	Exhibited PAR disruption at a dose of 4 μM.

REFERENCES

[1]. Keppler DO, et al. The trapping of uridine phosphates by D-galactosamine. D-glucosamine, and 2-deoxy-D-galactose. A study on the mechanism of galactosamine hepatitis. Eur J Biochem. 1970 Dec;17(2):246-53.

[2]. Krug M, et al. The amnesic substance 2-deoxy-D-galactose suppresses the maintenance of hippocampal LTP. Brain Res. 1991 Feb 1;540(1-2):237-42.

[3]. Lorenzini CG, et al. 2-Deoxy-D-galactose effects on passive avoidance memorization in the rat. Neurobiol Learn Mem. 1997 Nov;68(3):317-24.

[4]. Smith DF, Keppler DO. 2-Deoxy-D-galactose metabolism in ascites hepatoma cells results in phosphate trapping and glycolysis inhibition. Eur J Biochem. 1977 Feb 15;73(1):83-92.

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