



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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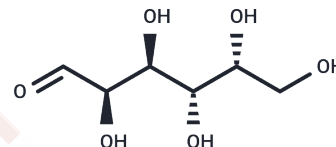
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## D-Galactose

## Chemical Properties

CAS No. :	59-23-4
Formula:	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>
Molecular Weight:	180.16
Appearance:	no data available
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year



## Biological Description

Description	D-Galactose (Alpha-D-galactose) is an aldohexose that exists naturally in the D-form in lactose, cerebrosides, gangliosides, and mucoproteins and is converted enzymatically into D-glucose for metabolism or polysaccharides for storage. It accelerates senescence in invertebrates and mammals and has been used as a model for aging.
Targets(IC50)	Endogenous Metabolite
In vitro	Galactose is important for the survival and virulence of bacteria. Galactose is utilized by the Leloir pathway in Escherichia coli. Two anomers of d-galactose are used for different purposes, $\alpha$ -d-galactose as a carbon source and $\beta$ -d-galactose for induction of UDP-galactose synthesis for biosynthetic glycosylation[1].
In vivo	Chronic D-galactose exposure induces neurodegeneration by enhancing caspase-mediated apoptosis and inhibiting neurogenesis and neuron migration in mice, as well as increasing oxidative damage. Moreover, D-galactose-induced toxicity in mice is a useful model for studying the mechanisms of neurodegeneration and neuroprotective drugs and agents[2]. D-galactose given by oral route leads to cognitive impairments in rats which are accompanied by oxidative damage. Cognitive impairments is observed in the open-field test in the 4th and 6th weeks after d-gal administration, as well as an impairment in spatial memory in the radial maze test after the 6th week of d-gal administration[3].

## Solubility Information

Solubility	H <sub>2</sub> O: 66 mg/mL (366.34 mM) DMSO: 55 mg/mL (305.28 mM), ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	5.5506 mL	27.7531 mL	55.5062 mL
5 mM	1.1101 mL	5.5506 mL	11.1012 mL
10 mM	0.5551 mL	2.7753 mL	5.5506 mL
50 mM	0.111 mL	0.5551 mL	1.1101 mL

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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.

### Reference

Hou J, et al. D-galactose induces astrocytic aging and contributes to astrocytoma progression and chemoresistance via cellular senescence. Mol Med Rep. 2019 Nov;20(5):4111-4118.

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