Meglumine

Cat. No.: HY-B0342

CAS No.: 6284-40-8

Molecular Formula: $C_7H_{17}NO_5$

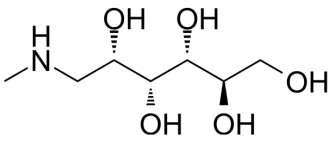
Molecular Weight: 195.21

Target: Biochemical Assay Reagents

Pathway: Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (256.13 mM; Need ultrasonic)

DMSO : 10 mg/mL (51.23 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.1227 mL	25.6134 mL	51.2269 mL
5 mM	1.0245 mL	5.1227 mL	10.2454 mL
10 mM	0.5123 mL	2.5613 mL	5.1227 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 (512.27 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Meglumine (Methylglucamine) is an orally active amino sugar derived from sorbitol. Meglumine has anti-inflammatory and antitumor activity. Meglumine is often used as an excipient in active molecules and with iodinated compounds in contrast agents such as meglumine and meglumine iodide[1][2][3].

In Vitro

Meglumine (40 or 80 mM, 24 h; 50 mM, 24 h) dose-dependently reduces the levels of inflammatory factors in THP-1 human myeloid cells and RAW264.7 mouse macrophage cells (Elisa assay)[2].

Meglumine (0-300 mM, 60 min) dose-dependently increases SNARK expression levels in C2C12 mouse myoblasts[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[4]

Cell Line:	C2C12 mouse myoblasts
Concentration:	0, 10, 30, 100, 300 mM or 200 mM
Incubation Time:	60 min or 0, 10, 30, 60, 120 min
Result:	Increased the levels of SNARK protein in a dose-dependent manner after 60 min and reached a plateau at 30 minutes.

In Vivo

Meglumine (25 or 50 mM; 37.5 mM, taken orally dissolved in water) reduces levels of inflammatory factors and inhibits skin cancer tumor growth in rats and mice[2].
Meglumine (18 mM, oral gavage) improves muscle function, limits metabolic syndrome, and reduces diabetic complications in type 2 diabetic mice[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Sprague-Dawley rat[2]
Dosage:	25 or 50 mM
Administration:	p.o., dissolve in water
Result:	Reduced the isoprostane levels in rats.

Animal Model:	K6/ODC transgenic mice[2]
Dosage:	37.5 mM
Administration:	p.o., dissolve in water
Result:	Reduced the number of skin tumors and inhibited tumor growth.

Animal Model:	KK.Cg-Ay/J mice[4]
Dosage:	18 mM
Administration:	p.o., in drinking water
Result:	Performed better in a glucose tolerance test. Decreased their average fasting levels of glucose and triglyceride levels in both the liver and blood serum.

REFERENCES

[1]. de Souza ALR, et al. Meglumine-based supra-amphiphile self-assembled in water as a skin drug delivery system: Influence of unfrozen bound water in the system bioadhesiveness. Colloids Surf B Biointerfaces. 2019 Dec 1;184:110523.

[2]. Manley K, et al. Preclinical study of the long-range safety and anti-inflammatory effects of high-dose oral meglumine. J Cell Biochem. 2019 Jul;120(7):12051-12062.

[3]. Guo R Y, et al. Meglumine promoted one-pot, four-component synthesis of pyranopyrazole derivatives. Tetrahedron, 2013, 69(47): 9931-9938.

[4]. Bravo-Nuevo A, et al. Meglumine exerts protective effects against features of metabolic syndrome and type II diabetes. PLoS One. 2014 Feb 27;9(2):e90031.

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

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