Data Sheet (Cat.No.T13647)

TargetMol

Dextran sulfate sodium salt (MW 5000)

Chemical Properties

CAS No. : 9011-18-1

Formula: (C6H7Na3O14S3)n

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Dextran sulfate sodium salt (MW 4500-5500)

Biological Description

Description	Dextran sulfate sodium salt (MW 4500-5500) is a polymer of dehydrated glucose and an inhibitor of complement and coagulation pathways. Dextran sulfate sodium salt (MW 4500-5500) can be used as an anticoagulant, antiviral agent and antilipidemic agent. Dextran sulfate sodium salt (MW 4500-5500) can prevent the HIV-1 virus from adsorbing onto host cells. Dextran sulfate sodium salt (MW 4500-5500) can inhibit NK cell-mediated cytotoxicity. Dextran sulfate sodium salt (MW 4500-5500) can inhibit the immediate blood-mediated inflammatory response (IBMIR).
Targets(IC50)	Apoptosis,HIV Protease,Complement System
In vitro	**METHODS**: MT-4 cells were treated with Dextran sulfate sodium salt (MW 4500-5500) (25 μg/mL) for 24 hours. The inhibitory effect on HIV-1 replication was observed, and the effects of the drug on cytotoxicity and reverse transcriptase activity were evaluated. **RESULTS**: Dextran sulfate sodium salt (MW 4500-5500) has a significant selective inhibitory effect on HIV-1, with an IC50 value of 2.3-8.8 μg/ml, and does not show toxicity to host cells at high concentrations. [1]
In vivo	**METHODS**: To investigate the effect of Dextran sulfate sodium salt (MW 4500-5500) on endothelial injury after ischemia and reperfusion in a rat model of inferior renal aortic clamp, Dextran sulfate sodium salt (MW 4500-5500)(5 mg/mL, 200 μL) was immediately locally infused into the ischemic aortic segment of rats before reperfusion. **RESULTS**: Dextran sulfate sodium salt (MW 4500-5500) inhibits complement activation and reduces endothelial injury after ischemia and reperfusion in the rat model of inferior renal aortic clamp. [2]

Solubility Information

Solubility	H2O: 100 mg/mL,Sonication is recommended. DMSO: Insoluble (< 1 mg/ml refers to the product slightly soluble or insoluble)

Reference

Baba M, et al. Mechanism of inhibitory effect of dextran sulfate and heparin on replication of human immunodeficiency virus in vitro. Proc Natl Acad Sci U S A. 1988 Aug;85(16):6132-6.
Wang Y, Luo W, Wang X, et al. MAMDC2, a gene highly expressed in microglia in experimental models of Alzheimers Disease, positively regulates the innate antiviral response during neurotropic virus infection. Journal of Infection. 2022, 84(2): 187-204
Banz Y,et al. Dextran sulfate modulates MAP kinase signaling and reduces endothelial injury in a rat aortic clamping model. J Vasc Surg. 2009 Jul;50(1):161-70.

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