Data Sheet (Cat.No.T6531)

TargetMol

Heparin sodium salt

Chemical Properties

CAS No. : 9041-08-1

Formula:

Molecular Weight:

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

Biological Description

Description	Heparin sodium is a sulfated polysaccharide, which belongs to the family of glycosaminoglycans. It is utilized as an anticoagulant and interacted with diverse proteins for numerous important biological activities.Heparin sodium salt (Sodium heparinate) significantly inhibits exosome-cell interactions.
Targets(IC50)	Factor Xa,Autophagy,Thrombin
In vitro	Heparin contains a speci?c pentasaccharide sequence that binds and activates the plasma proteinase inhibitor AT, which accounts for most of the increase in inhibitory activity toward Factor Xa induced by heparin. Heparin binds, via the speci?c pentasaccharide sequence, to AT is a two-step process, involving formation of an initial complex with a Kd of ~4×10?5M, followed by conformational changes in both the AT and saccharide moieties. Heparin 12-mer binds to FGF2 monomer covalently is able to induce FGFR activation (stimulate mitogenesis). [1] Heparin induces aggregation of platelets in citrated platelet-rich plasma and enhances platelet aggregation and serotonin secretion induced by other agents, and this action of heparin is blocked by substances that elevate platelet cyclic AMP and by EDTA but not by inhibitors of platelet cyclooxygenase. [2] Heparin controls, through a post-translational mechanism, the levels of specific cassettes of positively charged proteases inside mast cells. [3] Heparin activates the inhibition of thrombin by antithrombin by bringing them into close apposition, but there is also a direct activation of inhibition due to an overall conformational change induced by the binding to the core pentasaccharide present in both heparin and heparans. [4]
Kinase Assay	In vitro assay of CYP17: The in vitro CYP17 inhibitory activity of Galeterone is evaluated using rapid acetic acid releasing assay (AARA), utilizing intact P450c17-expressing E. coli as the enzyme source. It involves the use of [21-3H]-17α-hydroxypregnenolone as the substrate, and CYP17 activity is measured by the amount of tritiated acetic acid formed during the cleavage of the C-21 side chain of the substrate. IC50 value is obtained directly from plots relating percentage inhibition versus inhibitor concentration over appropriate ranges.

Solubility Information

Solubility	H2O: 126.30 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Reference

Furue MK, et al. Heparin promotes the growth of human embryonic stem cells in a defined serum-free medium. Proc Natl Acad Sci U S A. 2008 Sep 9;105(36):13409-14.
Zhu H, Liu X, Wang X, et al.Gβγ subunit inhibitor decreases DOM-induced head twitch response via the PLCβ/IP3/Ca2+/ERK and cAMP signaling pathways.European Journal of Pharmacology.2023: 176038.
Zhu C, et al. Heparin Increases Food Intake through AgRP Neurons. Cell Rep. 2017 Sep 5;20(10):2455-2467.
Humphries DE, et al. Nature, 1999, 400(6746), 769-772.
Jin L, et al. Proc Natl Acad Sci U S A, 1997, 94(26), 14683-14688.