
Product Data Sheet

Product Name: Enoxaparin

Cat. No.: GC68034

Chemical Properties

Cas. No. 679809-58-6

Formula M.Wt

Solubility H₂O : ≥ 100 mg/mL Storage 4°C, protect from light

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

Background

Enoxaparin (PK 10169), a low-molecular-weight heparin (LMWH) derivative. Enoxaparin exerts **anticoagulant** activity through antithrombin III, an endogenous inhibitor of **Factor Xa** and **thrombin IIa**. Enoxaparin protect the rat hippocampus against TBI (traumatic brain injury) via **antioxidant** and **anti-inflammatory** properties. Enoxaparin can be used for the research of deep vein thrombosis (DVT), pulmonary embolism, TBI and COVID-19^{[1][2][3]}.

Enoxaparin (0-70 µg/mL, 90 min) enhances AAT (alpha-1-antitrypsin) inhibition of both TMPRSS2 (Transmembrane Protease 2) activity and infection of hAEC (human airway epithelial cells) with HCoV-229E^[1].

Cell Viability Assay^[1]

Cell Line: HEK293T TMPRSS2 cells, hAEC

Concentration: 0, 8.8, 35, 70 µg/mL

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

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Incubation Time: 90 min

Result: Significantly inhibited TMPRSS2 activity at the 90 min incubation period at 35 and 70 µg/mL, enhanced AAT inhibition of TMPRSS2 activity, and augmented AAT inhibition of HCoV-229E infection of hAEC.

Enoxaparin (1 mg/kg; SC; once every 6 h for 8 times) reduces oxidative damage, inflammation and astrogliosis following TBI (traumatic brain injury) in the rat^[2].

Animal Model: Adult male Wistar rats (350-450 g, TBI-treated)^[2]

Dosage: 0 mg/kg, 1 mg/kg

Administration: SC, once every 6 h, starting at 1 h, and finishing at 43 h after the TBI induction.

Result: Significantly decreased the hippocampal TBARS and oxidized protein levels, COX-2 overexpression and reactive gliosis, but it did not influence the SOD and GSH-Px activities, pro-IL-1β and active caspase-3 overexpressions as well as neurodegeneration following TBI. Reduce oxidative damage, inflammation and astrogliosis following TBI in the rat.

[1]. Bai X, et al. Enoxaparin augments alpha-1-antitrypsin inhibition of TMPRSS2, a promising drug combination against COVID-19. *Sci Rep.* 2022 Mar 25;12(1):5207.

[2]. ?upan ?, et al. Effects of enoxaparin in the rat hippocampus following traumatic brain injury. *Prog Neuropsychopharmacol Biol Psychiatry.* 2011 Dec 1;35(8):1846-56.

[3]. Lee S, Gibson CM. Enoxaparin in acute coronary syndromes. *Expert Rev Cardiovasc Ther.* 2007 May;5(3):387-99.

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