

[heparan sulfate]-glucosamine 3-sulfotransferase 1

Cat. No. EXWM-3382

Lot. No. (See product label)

Introduction

Description

This enzyme differs from the other [heparan sulfate]-glucosamine 3-sulfotransferases [EC 2.8.2.29 ([heparan sulfate]-glucosamine 3-sulfotransferase 2) and EC 2.8.2.30 ([heparan sulfate]-glucosamine 3-sulfotransferase 3)] by being the most selective for a precursor of the antithrombin-binding site. It has a minimal acceptor sequence of: $\rightarrow \text{GlcNAc6S} \rightarrow \text{GlcA} \rightarrow \text{GlcN2S}^{*+/-6\text{S}} \rightarrow \text{IdoA2S} \rightarrow \text{GlcN2S} \rightarrow$, the asterisk marking the target (symbols as in 2-Carb-38) using +/- to mean the presence or absence of a substituent, and > to separate a predominant structure from a minor one. Thus $\text{Glc}(\text{N2S} > \text{NAc})$ means a residue of glucosamine where the N carries a sulfo group mainly but occasionally an acetyl group.). It can also modify other precursor sequences within heparan sulfate but this action does not create functional antithrombin-binding sites. These precursors are variants of the consensus sequence: $\rightarrow \text{Glc}(\text{N2S} > \text{NAc})+/-6\text{S} \rightarrow \text{GlcA} \rightarrow \text{GlcN2S}^{*+/-6\text{S}} \rightarrow \text{GlcA} > \text{IdoA}+/-2\text{S} \rightarrow \text{Glc}(\text{N2S/NAc})+/-6\text{S} \rightarrow$. If the heparan sulfate substrate lacks 2-O-sulfation of GlcA residues, then enzyme specificity is expanded to modify selected glucosamine residues preceded by IdoA as well as GlcA.

Synonyms

heparin-glucosamine 3-O-sulfotransferase; 3'-phosphoadenylyl-sulfate:heparin-glucosamine 3-O-sulfotransferase; glucosaminyl 3-O-sulfotransferase; heparan sulfate D-glucosaminyl 3-O-sulfotransferase; isoform/isozyme 1 (3-OST-1, HS3ST1)

Product Information

Form

Liquid or lyophilized powder

EC Number

EC 2.8.2.23

CAS No.

183257-54-7

Reaction

3'-phosphoadenylyl sulfate + [heparan sulfate]-glucosamine = adenosine 3',5'-bisphosphate + [heparan sulfate]-glucosamine 3-sulfate

Notes

This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage

Store it at +4 °C for short term. For long term storage, store it at -20 °C~-80 °C.