

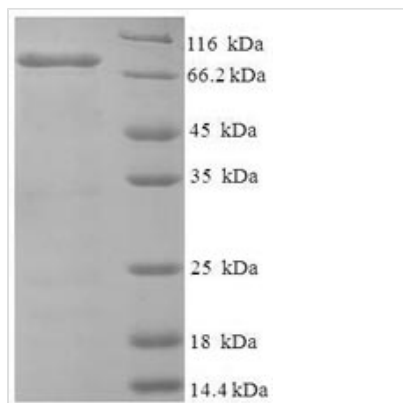


Recombinant Human Bifunctional heparan sulfate N-deacetylase/N-sulfotransferase 1 (NDST1), partial

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| Product Code | CSB-EP015614HU |
| Relevance | Essential bifunctional enzyme that catalyzes both the N-deacetylation and the N-sulfation of glucosamine (GlcNAc) of the glycosaminoglycan in heparan sulfate. Modifies the GlcNAc-GlcA disaccharide repeating sugar backbone to make N-sulfated heparosan, a prerequisite substrate for later modifications in heparin biosynthesis. Plays a role in determining the extent and pattern of sulfation of heparan sulfate. Compared to other NDST enzymes, its presence is absolutely required. Participates in biosynthesis of heparan sulfate that can ultimately serve as L-selectin ligands, thereby playing a role in inflammatory response. |
| Abbreviation | Recombinant Human NDST1 protein, partial |
| Storage | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C. |
| Uniprot No. | P52848 |
| Alias | Glucosaminyl N-deacetylase/N-sulfotransferase 1 ;NDST-1N-heparan sulfate sulfotransferase 1 ;N-HSST 1[Heparan sulfate]-glucosamine N-sulfotransferase 1 ;HSNST 1 2 domains:Heparan sulfate N-deacetylase 1 (EC:3.-.-)Heparan sulfate N-sulfotransferase 1 (EC:2.8.2.-) |
| Product Type | Recombinant Protein |
| Immunogen Species | Homo sapiens (Human) |
| Purity | Greater than 90% as determined by SDS-PAGE. |
| Sequence | GWKRGLEPSADAEPCDGPVAPSRLPLKPVQAATPSRTDPLVLVFVESL YSQLGQEVVAILESSRFKYRTEIAPGKGDMPTLTDKGRGRFALIYENILKYVNL DAWNRELLDKYCVAYGVGIIGFFKANENSLLSAQLKGFPLFLHSNLGLKDCSIN PKSPLLYVTRPSEVEKGVLPGEDWTVFQSNHSTYEPVLLAKTRSSSESIPHLGA DAGLHAALHATVVQDLGLHDGIQRVLFGNLNLFWLHKLVFVDAVAFLTGKRLS LPLDRYILVDIDDIFVGKEGTRMKVEDVKALFDTQNELRAHIPNFTFNLGYSGKF FHTGTNAEDAGDDLILLSYVKEFWWFPHMWSHMQPHLFHNQSVLAEQMALNK KFAVEHGIPTDMGYAVAPHHSGVYPVHVQLYEAWKQVWSIRVTSTEEYPHLK PARYRRGFIHNGIMVLPRQTCGLFTHITIFYNEYPGGSSELDKIINGGELFTVLL NPVSAPQPMAAGEKGLLHSLSAADTGFLPGKGGEA |
| Research Area | Immunology |
| Source | E.coli |
| Target Names | NDST1 |



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| Expression Region | 40-556aa |
| Notes | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| Tag Info | N-terminal 6xHis-SUMO-tagged |
| Mol. Weight | 73.5kDa |
| Protein Length | Partial of Isoform 2 |

Image


(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The recombinant Human NDST1 was expressed with the amino acid range of 40-556. The theoretical molecular weight of the NDST1 protein is 73.5 kDa. Expression of this NDST1 protein is conducted in e.coli. The NDST1 coding gene included the N-terminal 6xHis-SUMO tag, which simplifies the detection and purification processes of the recombinant NDST1 protein in following stages of expression and purification.

Bifunctional heparan sulfate N-deacetylase/N-sulfotransferase 1 (NDST1) is a crucial enzyme involved in the biosynthesis of heparan sulfate, a complex polysaccharide that plays essential roles in various biological processes. NDST1 possesses two distinct enzymatic activities: N-deacetylase and N-sulfotransferase. In the N-deacetylase activity, it catalyzes the removal of acetyl groups from N-acetylglucosamine residues, while in the N-sulfotransferase activity, it transfers sulfate groups to the resulting amino groups. These modifications contribute to the structural diversity of heparan sulfate, influencing its interactions with various proteins. NDST1 is essential for embryonic development, cell signaling, and extracellular matrix organization. Research on NDST1 spans areas such as developmental biology, cancer biology, and therapeutic interventions targeting heparan sulfate-related processes.

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| Reconstitution | We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference. |
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| Shelf Life | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life |
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of lyophilized form is 12 months at -20°C/-80°C.