# ST3GAL4 Protein, Human (HEK293, His-HA)

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| **Cat. No.:** | HY-P77849 |
| **Synonyms:** | Sialyltransferase 4C; SIAT4; SIAT4C; SIAT4-C; ST3Gal IV; ST3GAL4; ST3GalA.2; ST-4; STZSIAT4; Alpha 2,3-ST 4; CGS23; CGS23FLJ46764; FLJ11867; Gal-NAc 6S; NANTA3; SAT3; SAT-3 |
| **Species:** | Human |
| **Source:** | HEK293 |
| **Accession:** | Q11206 (E41-F333) |
| **Gene ID:** | 6484 |
| **Molecular Weight:** | Approximately 35.4 kDa |

## PROPERTIES

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| **Biological Activity** | The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet. |
| **Appearance** | Solution. |
| **Formulation** | Supplied as a 0.22 μm filtered solution of 20 mM Tris, 500 mM NaCl, pH 7.5. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | N/A. |
| **Storage & Stability** | Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | Shipping with dry ice. |

## DESCRIPTION

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| **Background** | The ST3GAL4 protein functions as a beta-galactoside alpha2-3 sialyltransferase, playing a pivotal role in the terminal sialylation of glycoproteins and glycolipids. This enzymatic activity involves catalyzing the transfer of sialic acid (N-acetyl-neuraminic acid; Neu5Ac) from the nucleotide sugar donor CMP-Neu5Ac onto acceptor Galbeta-(1->3)-GalNAc- and Galbeta-(1->4)-GlcNAc-terminated glycoconjugates through an alpha2-3 linkage. Notably, ST3GAL4 is a key player in hemostasis, being responsible for the sialylation of plasma VWF/von Willebrand factor, preventing its recognition by asialoglycoprotein receptors (ASGPR) and subsequent clearance. Additionally, it regulates ASGPR-mediated clearance of platelets. The protein is integral to the biosynthesis of sialyl Lewis X epitopes on O- and N-glycans, crucial for the recognition by SELE/E-selectin, SELP/P-selectin, and SELL/L-selectin, thereby facilitating selectin-mediated rolling and adhesion of leukocytes during extravasation. ST3GAL4 also contributes to the adhesion and transendothelial migration of neutrophils, likely through the terminal sialylation of CXCR2. In glycosphingolipid biosynthesis, ST3GAL4 sialylates GM1 and GA1 gangliosides to form GD1a and GM1b, respectively, and metabolizes brain c-series ganglioside GT1c to form GQ1c. Furthermore, it synthesizes ganglioside LM1, a major structural component of peripheral nerve myelin. |

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

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