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HNK-1ST Polyclonal Antibody

Catalog # AP70374

Product Information

Application	WB, IHC-P
Primary Accession	O43529
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42207

Additional Information

Gene ID	9486
Other Names	CHST10; Carbohydrate sulfotransferase 10; HNK-1 sulfotransferase; HNK-1ST; HNK1ST; HuHNK-1ST
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications. IHC-P~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

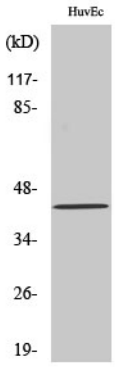
Name	CHST10 {ECO:0000303|PubMed:23269668, ECO:0000312|HGNC:HGNC:19650}
Function	Catalyzes the transfer of sulfate from 3'-phosphoadenylyl sulfate (PAPS) to position 3 of terminal glucuronic acid of both protein- and lipid-linked oligosaccharides. Participates in biosynthesis of HNK-1 carbohydrate structure 3-O-sulfo-beta-D-GlcA- (1->3)-beta-D-Gal-(1->4)-D-GlcNAc-R, a sulfated glucuronyl-lactosaminyl residue carried by many neural recognition molecules, which is involved in cell interactions during ontogenetic development and in synaptic plasticity in the adult. May be indirectly involved in synapse plasticity of the hippocampus, via its role in HNK-1 biosynthesis (PubMed:9478973). Sulfates terminal glucuronyl residue of the laminin globular (LG)-domain binding epitope on DAG1/alpha-dystroglycan and prevents further polymerization by LARGE1 glycosyltransferase. Likely defines the chain length of LG epitope, conferring binding specificity to extracellular matrix components (PubMed:32149355). Plays a role in down-regulating the steroid hormones. Sulfates glucuronidated estrogens and androgens with an impact in hormone cycle and fertility. Has a preference for glucuronyl moiety at the 3-hydroxyl group of a sterol ring rather than the 17-hydroxyl group,

	showing high catalytic efficiency for 17beta-estradiol 3-O-(beta-D-glucuronate) and dehydroepiandrosterone 3-O-(beta-D-glucuronate) hormones (PubMed:23269668).
Cellular Location	Golgi apparatus membrane {ECO:0000250|UniProtKB:O54702}; Single-pass type II membrane protein
Tissue Location	In fetal tissues, it is predominantly expressed in brain, and weakly expressed in lung, kidney and liver. In adult, it is highly expressed in brain, testis, ovary, expressed at intermediate level in heart, pancreas, skeletal muscle, spleen and thymus, and weakly expressed in other tissues. In brain, it is expressed at higher level in the frontal lobe.

Background

Catalyzes the transfer of sulfate to position 3 of terminal glucuronic acid of both protein- and lipid-linked oligosaccharides. Participates in biosynthesis of HNK-1 carbohydrate structure, a sulfated glucuronyl-lactosaminyl residue carried by many neural recognition molecules, which is involved in cell interactions during ontogenetic development and in synaptic plasticity in the adult. May be indirectly involved in synapse plasticity of the hippocampus, via its role in HNK-1 biosynthesis.

Images



Western Blot analysis of various cells using HNK-1ST Polyclonal Antibody