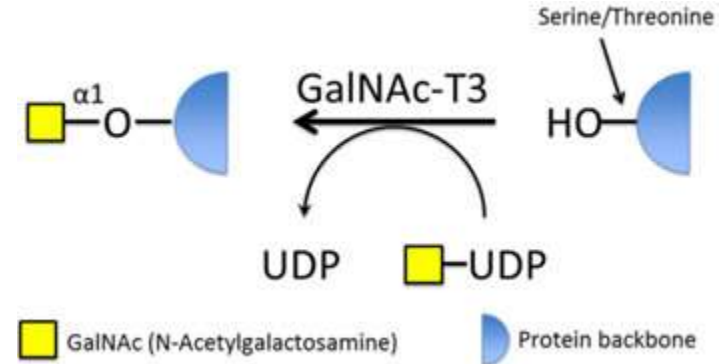


GalNAc-T3, soluble fragment, Human Recombinant

CATALOG NO:	P1216-5	5 µg
ALTERNATE NAMES:	Polypeptide N-acetylgalactosaminyltransferase 3, Polypeptide GalNAc transferase 3, GaNTase 3	
SOURCE:	Insect Cells	
PURITY:	> 95% by SDS - PAGE	
FORM:	Liquid	
FORMULATION:	Sterile filtered solution in 25 mM Tris pH7.5 and 150 mM NaCl at a stock concentration of 466 µg/ml.	
STORAGE CONDITIONS:	Stable for 4 weeks at 4°C. Stable for 6 months at -80°C. Avoid repeated freeze-thaw cycles.	

DESCRIPTION: Polypeptide N-acetylgalactosaminyltransferase 3 (GalNAc-T3) catalyzes the transfer of N-acetylgalactosamine (GalNAc) from UDP-GalNAc to the hydroxyl group of serine and threonine residues. Twenty GalNAc-T genes have been identified in humans and most have been shown to represent active GalNAc-Ts. All isoforms are type II transmembrane proteins, with different but partly overlapping substrate preferences. The GalNAc-Ts control the initiation of mucin-type O-linked glycosylation and determine the location and density of O-glycans in a protein. Addition of GalNAc to an unglycosylated Ser/Thr residue creates the Tn antigen GalNAc α 1-S/T, and subsequent addition of sialic acid by ST6GalNAc-I forms the cancer associated STn antigen. GalNAc-T3 is highly expressed in pancreas and testis, and weakly expressed in a few other organs such as placenta. The expression levels of GalNAc-T3 were found to be upregulated in highly differentiated types of adenocarcinoma cell lines as opposed to less differentiated types. Overexpression of GalNAc-T3 has also been found to promote pancreatic cancer cell growth. Mutations in GalNAc-T3 were found to be involved in familial tumoral calcinosis, which may be mediated through glycosylation of fibroblast growth factor 23, protecting it from proteolytic cleavage. GalNAc-T3 has a preference for mono- or diglycosylated substrates.

BIOLOGICAL ACTIVITY: Specific activity >500 pmol/min/ug. Measured by transfer of N-acetylgalactosamine (GalNAc) from UDP-Gal to the peptide EA2, as measured with a phosphatase-coupled assay. Coupling assay reactions contained: 50 mM Tris pH 7.5, 2 mM MnCl₂, 0.5 mM UDP-GalNAc, 0.25 mM EA2, 4 µg/mL ENTPD3/CD39L3, and 6 µg/mL GalNAc-T3 (serially diluted 1:2 for 3pts). Incubated at 37°C for 30 min.



RELATED PRODUCT:

- GalNAc-T2, soluble fragment, Human Recombinant (**Cat. No. P1215**)
- GalNAc-T5, soluble fragment, Human Recombinant (**Cat. No. P1217**)
- GalNAc-T16, soluble fragment, Human Recombinant (**Cat. No. P1218**)
- B3GNT6, soluble fragment, Human Recombinant (**Cat. No. P1219**)
- B4GalT1, soluble fragment, Human Recombinant (**Cat. No. P1220**)
- ST6GalNAc1, soluble fragment, Human Recombinant (**Cat. No. P1221**)
- ST3Gal1, soluble fragment, Human Recombinant (**Cat. No. P1222**)

FOR RESEARCH USE ONLY! Not to be used on humans.