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# B4GALT5 Protein (AA 1-388) (Strep Tag)



#### Overview

Quantity:	1 mg
Target:	B4GALT5
Protein Characteristics:	AA 1-388
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This B4GALT5 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

#### **Product Details**

Sequence:

MRARRGLLRL PRRSLLAALF FFSLSSSLLY FVYVAPGIVN TYLFMVQAQG ILLRDNVRTI GAQVYEQVVR SAYAKRNSSL NDSDYPLDLN HSEAFPPTTT FLPEDFTYFA NHPCPERLPS MKGPIDINMS EIAMDDIHEL FSRDPAIKLG GHWKPADCVP RWKVAILIPF RNRHEHLPVL LRHLLPMLQR QRLQFAFYVI EQVGTQPFNR AMLFNVGFQE AMKDLDWDCL IFHDVDHIPE SDRNYYGCGQ MPRHFATKLD KYMYLLPYTE FFGGVSGLTV EQFRKINGFP NAFWGWGGED DDLWNRVQNA GYSVSRPEGD TGKYKSIPHH HRGEVQFLGR YALLRKSKER QGLDGLNNLN YSANVTYDAL YKNITVNLTP ELAQVTEY

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- · Made in Germany from design to production by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

#### Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require posttranslational modifications.
- During lysate production, the cell wall and other cellular components that are not required for
  protein production are removed, leaving only the protein production machinery and the
  mitochondria to drive the reaction. During our lysate completion steps, the additional
  components needed for protein production (amino acids, cofactors, etc.) are added to
  produce something that functions like a cell, but without the constraints of a living system all that's needed is the DNA that codes for the desired protein!

#### Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

#### Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

- 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
- Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Product Details	
Purity:	≥ 80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Target Details	
Target:	B4GALT5
Alternative Name:	B4galt5 (B4GALT5 Products)
Background:	Beta-1,4-galactosyltransferase 5 (Beta-1,4-GalTase 5) (Beta4Gal-T5) (b4Gal-T5) (EC 2.4.1) (Beta-1,4-GalT II) (Glucosylceramide beta-1,4-galactosyltransferase) (EC 2.4.1.274) (Lactosylceramide synthase) (LacCer synthase) (UDP-Gal:beta-GlcNAc beta-1,4-galactosyltransferase 5) (UDP-galactose:beta-N-acetylglucosamine beta-1,4-galactosyltransferase 5),FUNCTION: Catalyzes the synthesis of lactosylceramide (LacCer) via the transfer of galactose from UDP-galactose to glucosylceramide (GlcCer) (PubMed:21057870, PubMed:23882130, PubMed:30114188). LacCer is the starting point in the biosynthesis of all gangliosides (membrane-bound glycosphingolipids) which play pivotal roles in the CNS including neuronal maturation and axonal and myelin formation (PubMed:30114188). Plays a role in the glycosylation of BMPR1A and regulation of its protein stability (PubMed:29415997). Essential for extraembryonic development during early embryogenesis (PubMed:20574042, PubMed:21057870). {ECO:0000269 PubMed:20574042, ECO:0000269 PubMed:23882130, ECO:0000269 PubMed:29415997, ECO:0000269 PubMed:30114188}.
Molecular Weight:	44.8 kDa
UniProt:	Q9JMK0
Pathways:	Glycosaminoglycan Metabolic Process
Application Details	
Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.

### **Application Details**

During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Restrictions:

For Research Use only

## Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)