

PRODUCT INFORMATION



α -1,2-Fucosyltransferase (*E. coli* O128, recombinant)

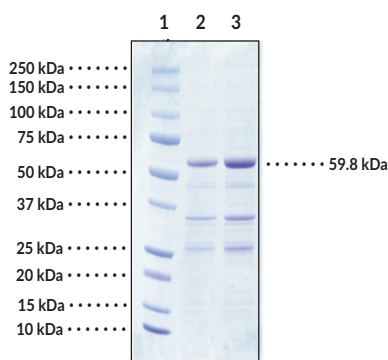
Item No. 39873

Overview and Properties

Synonyms:	Putative Fucosyltransferase, WbsJ
Source:	Active recombinant <i>E. coli</i> N-terminal GST-tagged α -1,2-fucosyltransferase expressed in <i>E. coli</i>
Amino Acids:	1-283 (full length)
Peptide Sequence:	
Uniprot No.:	Q6XQ53
Molecular Weight:	59.8 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥50% estimated by SDS-PAGE
Supplied in:	50 mM Tris, pH 7.5, with 10% glycerol
Protein	
Concentration:	<i>batch specific</i> mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images

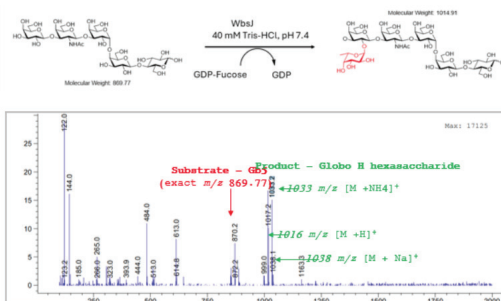


Lane 1: MW Markers

Lane 2: α -1,2-Fucosyltransferase (2 μ g)

Lane 3: α -1,2-Fucosyltransferase (4 μ g)

SDS-PAGE Analysis of α -1,2-Fucosyltransferase. This protein has a calculated molecular weight of 59.8 kDa.



Conversion of Globopentaose (Gb5) to Globo H hexasaccharide (Globo H hexose/Stage Specific Embryonic Antigen 3b/SSEA-3b).

α -1,2-Fucosyltransferase catalyzes the transfers of fucose from GDP-fucose to Gb5 to form synthesize Globo H hexasaccharide. This assay was performed in 500 μ l of the assay buffer (40 mM Tris-HCl, pH 7.4) containing Gb5 (5.0 mM), α -1,2-Fucosyltransferase enzyme (200 μ g), and UDP-fucose (3 mM). The reaction was incubated in a thermoshaker (500 rpm) at 32°C for 24 hours. The assay was stopped by adding an equal volume of chilled acetone followed by centrifugation at 21,000 x g for 15 minutes. The clarified supernatant was transferred to in a 5 ml glass vial and reduced to ~100 μ l under nitrogen. The supernatant sample was transferred to in a clean microfuge tube and centrifuged at 21,000 g for 10 minutes. The clarified supernatant was used for the LC-MS measurement mass identification.

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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Description

α -1,2-Fucosyltransferase is a member of glycosyltransferase family 11 that is found in *E. coli*.¹ It is composed of an N-terminal substrate-binding region, a random coil region, and a C-terminal mixed $\beta/\alpha/\beta$ domain, which contains the active site.^{1,2} α -1,2-Fucosyltransferase transfers fucose from GDP-fucose to globopentaose (Gb5) in the biosynthesis of globo H hexasaccharide (globoH) or the O antigens of LPS.^{3,4} Cayman's α -1,2-Fucosyltransferase (*E. coli* O128, recombinant) protein can be used for ELISA, enzyme activity assay, and Western blot applications.

References

1. Li, M., Liu, X.-W., Shao, J., *et al.* Characterization of a novel α 1,2-fucosyltransferase of *Escherichia coli* O128:b12 and functional investigation of its common motif. *Biochemistry* **47**(1), 378-387 (2008).
2. Li, M., Shen, J., Liu, X., *et al.* Identification of a new α 1,2-fucosyltransferase involved in O-antigen biosynthesis of *Escherichia coli* O86:B7 and formation of H-type 3 blood group antigen. *Biochemistry* **47**(44), 11590-11597 (2008).
3. Shao, J., Li, M., Jia, Q., *et al.* Sequence of *Escherichia coli* O128 antigen biosynthesis cluster and functional identification of an α -1,2-fucosyltransferase. *FEBS Lett.* **553**(1-2), 99-103 (2003).
4. Su, D.M., Eguchi, H., Yi, W., *et al.* Enzymatic synthesis of tumor-associated carbohydrate antigen Globo-H hexasaccharide. *Org. Lett.* **10**(5), 1009-1012 (2008).

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