

PRODUCT INFORMATION

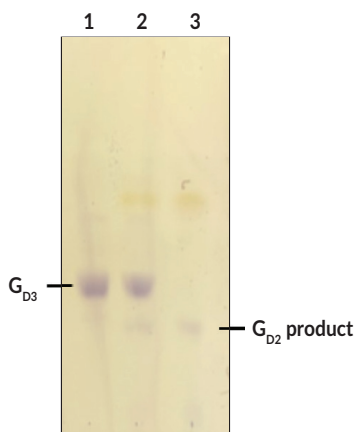
β -(1→4)-N-Acetylgalactosaminyltransferase (CgtA-II) (*C. jejuni*, recombinant)

Item No. 40540

Overview and Properties

Synonyms:	β -1,4-N-Acetylgalactosaminyltransferase (CjCgtA-II), CgtA-II, CjCgtA-II, β 1-4GalNAcT
Source:	Active recombinant <i>C. jejuni</i> C-terminal His-tagged CgtA-II expressed in <i>E. coli</i> strain BL21 Star (DE3)
Amino Acids:	16-315 (truncate)
Uniprot No.:	Q934C5
Molecular Weight:	37.32 kDa
Storage:	-80°C (as supplied)
Stability:	≥9 months
Purity:	Clarified lysate
Supplied in:	50 mM HEPES, with 20 mM magnesium dichloride and 5% glycerol
Protein	
Concentration:	<i>batch specific</i> mg/ml

Images



Lane 1: G_{D3} starting material

Lane 2: Co-injection of G_{D3} and G_{D2} reaction product

Lane 3: G_{D3} conversion to G_{D2} using lysate

TLC analysis of the conversion of ganglioside G_{D3} to ganglioside G_{D2} using CgtA lysate. The assay was performed in 126 ml of buffer (50 mM HEPES, 20 mM $MgCl_2$, 1% glycerol, 0.35% sodium cholate, pH 7.2) containing 1 mM ganglioside G_{D3} , 445 mg of CjCgtA lysate, and 2 mM UDP-GalNAc in a thermoshaker at 32°C for 18 hours at 150 rpm.

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

β -(1 $\rightarrow$ 4)-N-Acetylgalactosaminyltransferase (β 1-4GalNAcT) from *C. jejuni* is a glycosyltransferase involved in lipooligosaccharide synthesis.^{1,2} There are three variants of *C. jejuni* β 1-4GalNAcT: CgtA, CgtA-I, and CgtA-II, which are functionally homologous despite the sequences being only 34% conserved.^{2,3} CgtA-II transfers N-acetylgalactosamine (GalNAc) to mono- or disialylated galactose moieties.³ CgtA-II has been used in the semisynthesis of ganglioside G_{M2} and -G_{D2} glycans.¹ Cayman's β -(1 $\rightarrow$ 4)-N-Acetylgalactosaminyltransferase (CgtA-II) (*C. jejuni*, recombinant) protein can be used for biosynthesis applications.

References

1. Yu, H., Li, Y., Zeng, J., *et al.* Sequential one-pot multienzyme chemoenzymatic synthesis of glycosphingolipid glycans. *J. Org. Chem.* **81**(22), 10809-10824 (2016).
2. Gilbert, M., Karwaski, M.F., Bernatchez, S., *et al.* The genetic bases for the variation in the lipo-oligosaccharide of the mucosal pathogen, *Campylobacter jejuni*. Biosynthesis of sialylated ganglioside mimics in the core oligosaccharide. *J. Biol. Chem.* **277**(1), 327-337 (2002).
3. Gilbert, M., Parker, C.T., and Moran, A.P. *Campylobacter jejuni* lipooligosaccharides: Structures and biosynthesis. *Campylobacter* (2008).

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