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SZABO-SCANDIC Handels GmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

PRODUCT INFORMATION

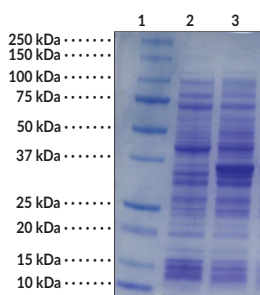
β -(1 $\rightarrow$ 4)-N-Acetylgalactosaminyltransferase (CgtA-II) (*C. jejuni*, recombinant)

Item No. 40540

Overview and Properties

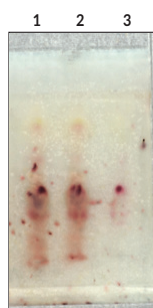
Synonyms:	β -1,4-N-Acetylgalactosaminyltransferase (CjCgtA-II), CgtA-II, CjCgtA-II, β 1-4GalNAcT
Source:	Active recombinant <i>C. jejuni</i> C-terminal His-tagged CgtA-II expressed in <i>E. coli</i> strain BL21 Star (DE3)
Amino Acids:	16-315 (truncate)
Uniprot No.:	Q934C5
Molecular Weight:	37.32 kDa
Storage:	-80°C (as supplied)
Stability:	≥ 6 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: MW Markers
Lane 2: Uninduced cell lysate
Lane 3: Induced cell lysate containing CgtA

SDS-PAGE Analysis of β -(1 $\rightarrow$ 4)-N-Acetylgalactosaminyltransferase (CgtA-II). This protein has a calculated molecular weight of 37.3 kDa.



Lane 1: G_{03} substrate alone
Lane 2: G_{03} no enzyme control
Lane 3: G_{03} conversion using lysate

TLC analysis of the conversion of ganglioside G_{03} to ganglioside G_{02} using CgtA lysate. The assay was performed in a volume of 500 μ l in assay buffer (50 mM HEPES, pH 7.25, 5% glycerol, 20 mM magnesium dichloride, and 0.35% sodium deoxycholate) containing 1 mM ganglioside G_{03} , 7.3 mg of CgtA lysate, and 2 mM UDP-GalNAc in a thermoshaker at 32°C for 48 hours at 300 rpm. Lane 1 is ganglioside G_{03} only control, lane 2 is negative control (no enzyme control), and lane 3 is reaction mixture, showing conversion of ganglioside G_{03} to ganglioside G_{02} .

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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM