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A4GALT Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10116a

Product Information

Application	WB, E
Primary Accession	Q9NPC4
Other Accession	NP_059132.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB19544
Calculated MW	40499
Antigen Region	26-54

Additional Information

Gene ID	53947
Other Names	Lactosylceramide 4-alpha-galactosyltransferase, Alpha-1, 4-N-acetylglucosaminyltransferase, Alpha-1, 4-galactosyltransferase, Alpha4Gal-T1, CD77 synthase, Globotriaosylceramide synthase, Gb3 synthase, P1/Pk synthase, UDP-galactose:beta-D-galactosyl-beta1-R 4-alpha-D-galactosyltransferase, A4GALT, A14GALT, A4GALT1
Target/Specificity	This A4GALT antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 26-54 amino acids from the N-terminal region of human A4GALT.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	A4GALT Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	A4GALT

Synonyms	A14GALT, A4GALT1
Function	Glycosyltransferase involved in biosynthesis of P1, P(k) and the rare NOR antigens of P1PK histo-blood group system (PubMed:10747952, PubMed:10748143, PubMed:22965229, PubMed:26773500, PubMed:29572228, PubMed:33460651). Catalyzes the transfer of galactose from UDP-alpha-D-galactose in an alpha1,4 linkage to lactosylceramide/beta-D-galactosyl-(1->4)-beta-D-glucosyl-(11)-ceramide(d18:1(4E)) to produce globotriaosylceramide/globoside Gb3Cer (d18:1(4E)), also known as P(k) antigen or CD77 (PubMed:10748143, PubMed:10747952, PubMed:26773500, PubMed:29572228, PubMed:22965229). Globoside Gb3Cer/P(k)/CD77 is a root structure in biosynthesis pathway of neutral glycosphingolipids of the globo-series. Broadly expressed in cell membranes of immune cells and other tissues, Gb3Cer/P(k)/CD77 antigen may participate in mechanisms that regulate cell-cell interactions and cell differentiation. In germinal center B cells, Gb3Cer/CD77 interacts with CD19 to drive centroblast-to-centrocyte transition, B cell receptor complex assembly and T follicular helper cell differentiation. In epithelium, Gb3Cer regulates CDH1/E-cadherin- dependent cell-cell adhesion counteracting epithelial-to-mesenchymal transition (By similarity) (PubMed:29572228). Synthesizes P1 glycan epitope (alpha-D-Gal-(1->4)-beta-D-Gal-(1->4)-GlcNAc-R) by transferring a galactose moiety to paragloboside nLc4 or to complex-type N-glycans (PubMed:26773500, PubMed:29572228, PubMed:33460651). Generates the rare NOR1 and NOR2 antigens which carry a Gal(alpha1->4)GalNAc terminal moiety and are both derived from Gb4Cer precursor (PubMed:22965229, PubMed:26773500, PubMed:33460651). Also able to transfer galactose to galactosylceramide/beta-D-Gal-(11')-Cer (PubMed:10748143).
Cellular Location	Golgi apparatus membrane; Single- pass type II membrane protein
Tissue Location	Ubiquitous. Highly expressed in kidney, heart, spleen, liver, testis and placenta

Background

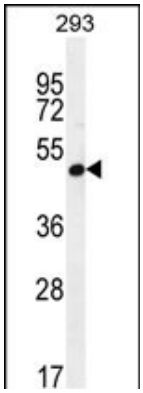
The protein encoded by this gene catalyzes the transfer of galactose to lactosylceramide to form globotriaosylceramide, which has been identified as the P(k) antigen of the P blood group system. The encoded protein, which is a type II membrane protein found in the Golgi, is also required for the synthesis of the bacterial verotoxins receptor.

References

Zumbrun, S.D., et al. Infect. Immun. 78(11):4488-4499(2010)
Shin, I.S., et al. BMB Rep 42(5):310-314(2009)
Lund, N., et al. Blood 113(20):4980-4991(2009)
Okuda, T., et al. Glycobiology 18(12):1028-1035(2008)
Hellberg, A., et al. BMC Genet. 6, 49 (2005) :

Images

A4GALT Antibody (N-term) (Cat. #AP10116a) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the A4GALT antibody detected the A4GALT protein (arrow).



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.