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GPI8 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2462a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q92643
Other Accession	Q4KRV1, Q9CXY9, Q3MHZ7
Reactivity	Human
Predicted	Bovine, Mouse, Pig, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	45252
Antigen Region	37-68

Additional Information

Gene ID	10026
Other Names	GPI-anchor transamidase, GPI transamidase, 3---, GPI8 homolog, hGPI8, Phosphatidylinositol-glycan biosynthesis class K protein, PIG-K, PIGK, GPI8
Target/Specificity	This GPI8 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 37-68 amino acids from the N-terminal region of human GPI8.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	GPI8 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PIGK (HGNC:8965)
Function	Catalytic subunit of the glycosylphosphatidylinositol-anchor (GPI-anchor) transamidase (GPI-T) complex that catalyzes the formation of the linkage between a proprotein and a GPI-anchor and participates in GPI anchored

protein biosynthesis (PubMed:10793132, PubMed:11483512, PubMed:12582175, PubMed:34576938, PubMed:35165458, PubMed:35551457, PubMed:37684232, PubMed:9356492). Recognizes diverse proproteins at a C-terminal signal peptide (CSP) region that lacks consensus sequence and replaces it with a GPI-anchor via a transamidation reaction (PubMed:35165458, PubMed:35551457, PubMed:37684232). Transamidation catalysis reaction follows a two-phase mechanism (PubMed:37684232). In the acyl-enzyme phase, the carbonyl group of the proproteins's omega- site undergoes a nucleophilic attack forming an enzyme-substrate thioester bond (PubMed:37684232). Followed by a general acid catalysis that allows CSP releasing, regenerating the carbonyl, and forming the acyl-enzyme intermediate (PubMed:37684232). In the GPI-anchor attachment phase, the amino group of the GPI-anchor's ethanolamine phosphate, the one on third mannose (EtNP3), mediates a nucleophilic attack on the carbonyl of the acyl-enzyme intermediate, replacing the CSP, allowing GPI-anchor attachment to the omega-residue, therefore forming the product and freeing the enzyme (PubMed:37684232).

Cellular Location Endoplasmic reticulum membrane; Single-pass type I membrane protein

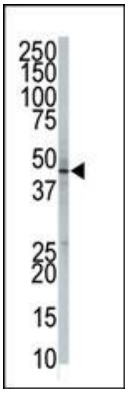
Background

GPI8 is a member of the cysteine protease family C13 that is involved in glycosylphosphatidylinositol (GPI)-anchor biosynthesis. The GPI-anchor is a glycolipid found on many blood cells and serves to anchor proteins to the cell surface. This protein is a member of the multisubunit enzyme, GPI transamidase and is thought to be its enzymatic component. GPI transamidase mediates GPI anchoring in the endoplasmic reticulum, by catalyzing the transfer of fully assembled GPI units to proteins.

References

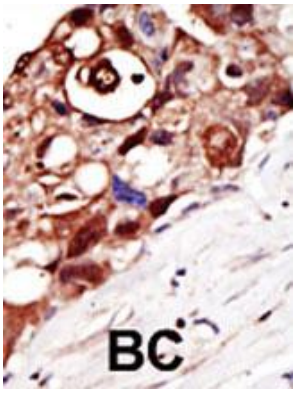
Ohishi, K., et al., J. Biol. Chem. 278(16):13959-13967 (2003). Vainauskas, S., et al., J. Biol. Chem. 277(34):30535-30542 (2002). Ohishi, K., et al., EMBO J. 20(15):4088-4098 (2001). Meyer, U., et al., Biochemistry 39(12):3461-3471 (2000). Yu, J., et al., Proc. Natl. Acad. Sci. U.S.A. 94(23):12580-12585 (1997).

Images



The anti-GPI8 Pab (Cat. #AP2462a) is used in Western blot to detect GPI8 in 293 cell lysate.

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Citations

- Profiling the expression pattern of GPI transamidase complex subunits in human cancer.

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