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Anti-GP2 (Glycoprotein 2) / ZAP75 Antibody

Mouse Monoclonal Antibody
Catalog # AH13275

Product Information

Application	IHC-P, IF, FC
Primary Accession	P55259
Other Accession	53985
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG
Clone Names	GP2/1712
Calculated MW	59480

Additional Information

Gene ID	2813
Other Names	Glycoprotein 2 (zymogen granule membrane); GP2; Pancreatic zymogen granule membrane associated protein GP2; Pancreatic zymogen granule membrane protein GP-2; ZAP75
Application Note	Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (0.5-1ug/ml); ,Immunohistology (Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0 for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-GP2 (Glycoprotein 2) / ZAP75 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

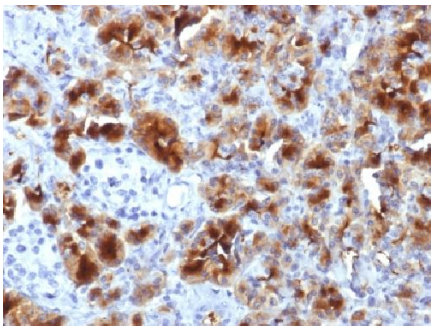
Name	GP2 (HGNC:4441)
Function	Functions as an intestinal M-cell transcytotic receptor specific for type-I-piliated bacteria that participates in the mucosal immune response toward these bacteria. At the apical membrane of M- cells it binds fimH, a protein of the bacteria type I pilus tip. Internalizes bound bacteria, like E.coli

	and S.typhimurium, from the lumen of the intestine and delivers them, through M-cells, to the underlying organized lymphoid follicles where they are captured by antigen-presenting dendritic cells to elicit a mucosal immune response.
Cellular Location	Zymogen granule membrane {ECO:0000250|UniProtKB:P19218}; Lipid-anchor, GPI-anchor {ECO:0000250|UniProtKB:P19218}. Secreted Cell membrane {ECO:0000250|UniProtKB:P19218}; Lipid-anchor, GPI-anchor {ECO:0000250|UniProtKB:P19218}. Apical cell membrane {ECO:0000250|UniProtKB:Q9D733}; Lipid-anchor, GPI-anchor {ECO:0000250|UniProtKB:P19218}. Membrane raft {ECO:0000250|UniProtKB:P19218}; Lipid-anchor, GPI-anchor {ECO:0000250|UniProtKB:P19218}. Endosome {ECO:0000250|UniProtKB:Q9D733}. Note=Secreted, after cleavage, in the pancreatic juice.
Tissue Location	Expressed in pancreas (at protein level) (PubMed:10760606, PubMed:8666297). Specifically expressed by M (microfold) cells which are atypical epithelial cells of the intestine (at protein level) (PubMed:19907495).

Background

GP2 (glycoprotein 2), also known as ZAP75, is a 537 amino acid secreted protein. It is an integral membrane protein that is secreted from intracellular zymogen granules and associates with the plasma membrane via glycosylphosphatidylinositol (GPI) linkage. GP2 is cleaved and then released into the pancreatic duct along with exocrine secretions. GP2 binds pathogens such as enterobacteria, thereby playing an important role in the innate immune response. The C-terminus of this protein is related to the C-terminus of the protein encoded by the neighboring gene, uromodulin (UMOD). GP2 is also expressed on the apical plasma membrane of specialized microfold (M) cells among enterocytes and serves as a transcytotic receptor for mucosal antigens. M cells are considered a promising target for oral vaccination against various infectious diseases.

Images



Formalin-fixed, paraffin-embedded human Pancreas stained with GP2 Monoclonal Antibody (GP2/1712).