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CHMP4B Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9528a

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q9H444
Other Accession	Q6IQ73, Q5XGW6, Q9D8B3, Q7ZVC4, Q5ZHP5, P59074, NP_789782
Reactivity	Human
Predicted	Chicken, Zebrafish, Mouse, Xenopus, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24088
Calculated MW	24950
Antigen Region	51-79

Additional Information

Gene ID	128866
Other Names	Charged multivesicular body protein 4b, Chromatin-modifying protein 4b, CHMP4b, SNF7 homolog associated with Alix 1, SNF7-2, hSnf7-2, Vacuolar protein sorting-associated protein 32-2, Vps32-2, hVps32-2, CHMP4B, C20orf178, SHAX1
Target/Specificity	This CHMP4B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 51-79 amino acids from the N-terminal region of human CHMP4B.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 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	CHMP4B Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CHMP4B

Synonyms	C20orf178, SHAX1
Function	Probable core component of the endosomal sorting required for transport complex III (ESCRT-III) which is involved in multivesicular bodies (MVBs) formation and sorting of endosomal cargo proteins into MVBs. MVBs contain intraluminal vesicles (ILVs) that are generated by invagination and scission from the limiting membrane of the endosome and mostly are delivered to lysosomes enabling degradation of membrane proteins, such as stimulated growth factor receptors, lysosomal enzymes and lipids. The MVB pathway appears to require the sequential function of ESCRT-O, -I,-II and -III complexes. ESCRT-III proteins mostly dissociate from the invaginating membrane before the ILV is released (PubMed:12860994, PubMed:18209100). The ESCRT machinery also functions in topologically equivalent membrane fission events, such as the terminal stages of cytokinesis (PubMed:21310966). Together with SPAST, the ESCRT-III complex promotes nuclear envelope sealing and mitotic spindle disassembly during late anaphase (PubMed:26040712). Plays a role in the endosomal sorting pathway. ESCRT-III proteins are believed to mediate the necessary vesicle extrusion and/or membrane fission activities, possibly in conjunction with the AAA ATPase VPS4. When overexpressed, membrane-assembled circular arrays of CHMP4B filaments can promote or stabilize negative curvature and outward budding. CHMP4A/B/C are required for the exosomal release of SDCBP, CD63 and syndecan (PubMed:22660413). Majority of the protein exists in a folded closed conformation (PubMed:33349255).
Cellular Location	Cytoplasm, cytosol. Late endosome membrane; Peripheral membrane protein. Midbody. Nucleus envelope. Note=Recruited to the nuclear envelope by CHMP7 during late anaphase (PubMed:26040712). Localizes transiently to the midbody arms immediately before abscission (PubMed:22422861)
Tissue Location	Widely expressed. Expressed at higher level in heart and skeletal muscle. Also expressed in brain, colon, thymus, spleen, kidney, liver, small intestine, placenta, lung and peripheral blood lymphocytes.

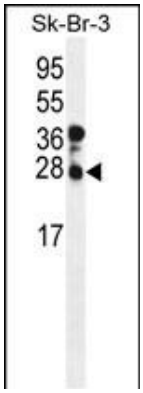
Background

CHMP4B is a member of the chromatin-modifying protein/charged multivesicular body protein (CHMP) protein family. The protein is part of the endosomal sorting complex required for transport (ESCRT) complex III (ESCRT-III), which functions in the sorting of endocytosed cell-surface receptors into multivesicular endosomes. The ESCRT machinery also functions in the final abscisson stage of cytokinesis and in the budding of enveloped viruses such as HIV-1. The three proteins of the CHMP4 subfamily interact with programmed cell death 6 interacting protein (PDCD6IP, also known as ALIX), which also functions in the ESCRT pathway. The CHMP4 proteins assemble into membrane-attached 5-nm filaments that form circular scaffolds and promote or stabilize outward budding. These polymers are proposed to help generate the luminal vesicles of multivesicular bodies.

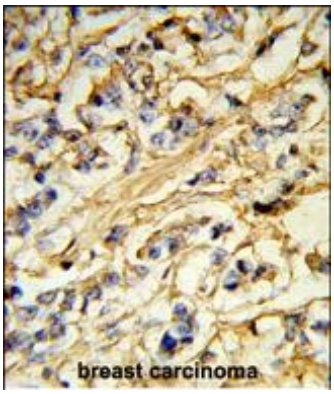
References

Zhou, X., et al. Biochem. J. 418(2):277-284(2009)
McCullough, J., et al. Proc. Natl. Acad. Sci. U.S.A. 105(22):7687-7691(2008)
Ichioka, F., et al. FEBS J. 275(4):682-692(2008)
Hanson, P.I., et al. J. Cell Biol. 180(2):389-402(2008)
Shiels, A., et al. Am. J. Hum. Genet. 81(3):596-606(2007)

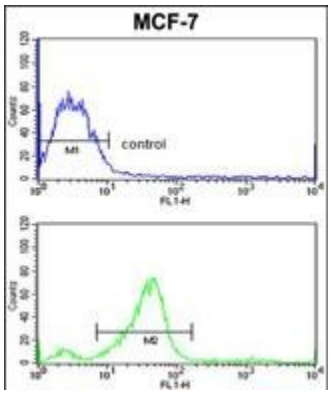
Images



Western blot analysis of CHMP4B Antibody (N-term) (Cat. #AP9528a) in SK-BR-3 cell line lysates (35ug/lane).CHMP4B (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human breast carcinoma reacted with CHMP4B Antibody (N-term), 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.



CHMP4B Antibody (N-term) (Cat. #AP9528a) flow cytometric analysis of MCF-7 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- High CHMP4B expression is associated with accelerated cell proliferation and resistance to doxorubicin in hepatocellular carcinoma.

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