10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ACP5 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1841a

Product Information

Application	WB, IHC, E
Primary Accession	P13686
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7E6A11
Isotype	IgG1
Calculated MW	36599
Description	This gene encodes an iron containing glycoprotein which catalyzes the conversion of orthophosphoric monoester to alcohol and orthophosphate. It is the most basic of the acid phosphatases and is the only form not inhibited by L(+)-tartrate.
Immunogen	Purified recombinant fragment of human ACP5 (AA: 221-325) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	54
Other Names	Tartrate-resistant acid phosphatase type 5, TR-AP, 3.1.3.2, Tartrate-resistant acid ATPase, TrATPase, Type 5 acid phosphatase, ACP5
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ACP5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACP5 (HGNC:124)
Function	Functions as a binuclear Fe(III)-Fe(II) acid phosphatase that hydrolyzes phosphate esters to alcohols and phosphate under acidic conditions (PubMed:1477968, PubMed:2775236). Dephosphorylates a broad range of

	substrates, including adenosine 5'-diphosphate (ADP), adenosine 5'-triphosphate (ATP), as well as larger phosphoproteins such as osteopontin (SPP1), a highly phosphorylated bone matrix protein, bone sialoprotein (IBSP) and synthetic compounds such as para- nitrophenyl phosphate (p-NPP) (By similarity). Through the dephosphorylation of bone matrix proteins, plays a crucial role in normal cartilage mineralization during skeletal development and in maintaining and remodeling bone integrity in adults (By similarity). Promotes osteoclast migration by dephosphorylating SPP1, which binds osteoclasts to the bone matrix (By similarity). Also involved in immune regulation and macrophage function, contributes to the breakdown of internalized pathogens within lysosomes (By similarity). Regulates immune cell recruitment during infection, partly via interaction with SPP1 (By similarity). The uncleaved form (isoform 5a) functions primarily in immune regulation rather than bone resorption (By similarity). May contribute to the removal of mannose-6-phosphate (Man6P) from lysosomal proteins after their delivery to lysosomes, acting in concert with ACP2 (By similarity).
Cellular Location	Lysosome {ECO:0000250|UniProtKB:Q05117}. Secreted. Note=The uncleaved form (isoform 5a) is secreted by macrophage and dendritic cell. The cleaved form (isoform 5b) is secreted by osteoclasts.

Background

The protein encoded by this gene is a small cellular or pericellular matrix proteoglycan that is closely related in structure to biglycan protein. The encoded protein and biglycan are thought to be the result of a gene duplication. This protein is a component of connective tissue, binds to type I collagen fibrils, and plays a role in matrix assembly. It contains one attached glycosaminoglycan chain. This protein is capable of suppressing the growth of various tumor cell lines. There are multiple alternatively spliced transcript variants known for this gene. This gene is a candidate gene for Marfan syndrome. ;

References

1. Clin Chim Acta. 2011 May 12;412(11-12):963-9. 2. Eur J Gynaecol Oncol. 2011;32(6):615-8.

Images

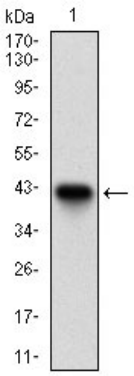
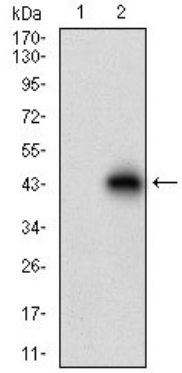


Figure 1: Western blot analysis using ACP5 mAb against human ACP5 recombinant protein. (Expected MW is 37.3 kDa)

Figure 2: Western blot analysis using ACP5 mAb against HEK293 (1) and ACP5 (AA: 221-325)-hIgGFc transfected HEK293 (2) cell lysate.



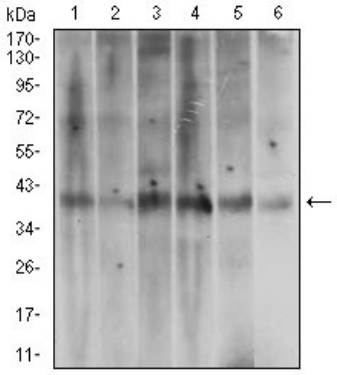


Figure 3: Western blot analysis using ACP5 mouse mAb against A431 (1), T47D (2), HepG2 (3), MOLT4 (4), Jurkat (5) and Hela (6) cell lysate.

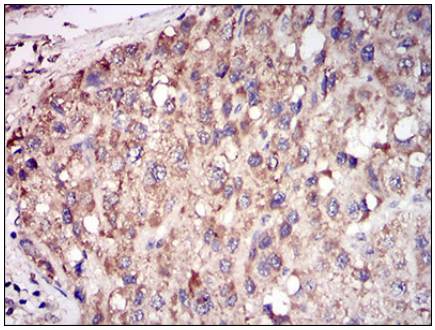


Figure 4: Immunohistochemical analysis of paraffin-embedded liver cancer tissues using ACP5 mouse mAb with DAB staining.

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