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TRAP Antibody

Catalog # ASC11500

Product Information

Application	WB, IF, E
Primary Accession	P13686
Other Accession	NP_001104505, 161377453
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	36599
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TRAP antibody can be used for detection of TRAP by Western blot at 1 g/mL. For immunofluorescence start at 20 g/mL.

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
Target/Specificity	ACP5;
Reconstitution & Storage	TRAP antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	TRAP 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.

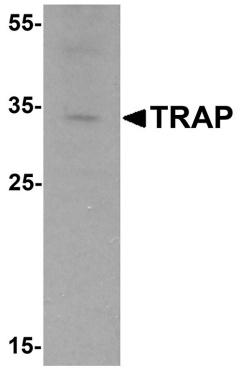
Background

TRAP Antibody: TRAP, also known as uteroferrin, is an iron containing, glycosylated, acid phosphatase. It is the most basic of the acid phosphatases and is the only form not inhibited by L(+)-tartrate. Along with the related protein ACP2, TRAP mediates the removal of mannose 6-phosphate residues from proteins targeted to lysosomes. TRAP is present in brain at low levels, but is expressed at a much higher level in liver.

References

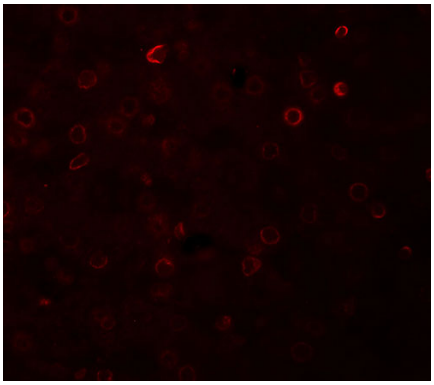
Baumbach GA, Saunders PT, Bazer FW, et al. Uteroferrin has N-apsaragine-linked high mannose-type oligosaccharaides that contain mannose 6-phosphate. Proc. Natl. Acad. Sci. USA 1984; 81:2985-9.
Sun P, Sleat DE, Lecocq M, et al. Acid phosphatase 5 is responsible for removing the mannose 6-phosphate recognition marker from lysosomal proteins. Proc. Natl. Acad. Sci. USA 2004; 105:16590-5.
Makypridi G, Damme M, Muller-Loennies S, et al. Mannose 6 dephosphorylation of lysosomal proteins mediated by acid phosphatases Acp2 and Acp5. Mol. Cell Biol. 2012; 32:774-82.

Images



Western blot analysis of TRAP in mouse brain tissue lysate with TRAP antibody at 1 µg/mL.

Immunofluorescence of TRAP in human liver tissue with TRAP antibody at 20 µg/mL.



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