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EPS8 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8148a

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	Q12929
Reactivity	Human
Predicted	Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	91882
Antigen Region	9-39

Additional Information

Gene ID	2059
Other Names	Epidermal growth factor receptor kinase substrate 8, EPS8
Target/Specificity	This EPS8 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 9-39 amino acids from the N-terminal region of human EPS8.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:25 FC~~1:25 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	EPS8 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EPS8
Function	Signaling adapter that controls various cellular protrusions by regulating actin cytoskeleton dynamics and architecture. Depending on its association with other signal transducers, can regulate different processes. Together with SOS1 and ABI1, forms a trimeric complex that participates in transduction of

	signals from Ras to Rac by activating the Rac-specific guanine nucleotide exchange factor (GEF) activity. Acts as a direct regulator of actin dynamics by binding actin filaments and has both barbed-end actin filament capping and actin bundling activities depending on the context. Displays barbed-end actin capping activity when associated with ABI1, thereby regulating actin- based motility process: capping activity is auto-inhibited and inhibition is relieved upon ABI1 interaction. Also shows actin bundling activity when associated with BAIAP2, enhancing BAIAP2-dependent membrane extensions and promoting filopodial protrusions. Involved in the regulation of processes such as axonal filopodia growth, stereocilia length, dendritic cell migration and cancer cell migration and invasion. Acts as a regulator of axonal filopodia formation in neurons: in the absence of neurotrophic factors, negatively regulates axonal filopodia formation via actin-capping activity. In contrast, it is phosphorylated in the presence of BDNF leading to inhibition of its actin-capping activity and stimulation of filopodia formation. Component of a complex with WHRN and MYO15A that localizes at stereocilia tips and is required for elongation of the stereocilia actin core. Indirectly involved in cell cycle progression; its degradation following ubiquitination being required during G2 phase to promote cell shape changes.
Cellular Location	Cytoplasm, cell cortex. Cell projection, ruffle membrane. Cell projection, growth cone. Cell projection, stereocilium {ECO:0000250, ECO:0000250|UniProtKB:Q08509}. Synapse, synaptosome Note=Localizes at the tips of the stereocilia of the inner and outer hair cells (By similarity). Localizes to the midzone of dividing cells {ECO:0000250, ECO:0000250|UniProtKB:Q08509}
Tissue Location	Expressed in all tissues analyzed, including heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas Expressed in all epithelial and fibroblastic lines examined and in some, but not all, hematopoietic cells

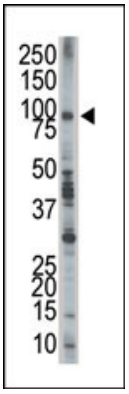
Background

Upon binding to EGF receptor, EPS8 enhances EGF-dependent mitogenic signals. It can bind multiple cellular targets. EPS8 is expressed in all tissues analyzed, including heart, brain, placenta, lung, liver, skeletal muscle, kidney, and pancreas. It is expressed in all epithelial and fibroblastic lines examined and in some, but not all, hematopoietic cells. EPS8 is phosphorylated by several receptor tyrosine kinases. The protein contains 1 PH domain and 1 SH3 domain.

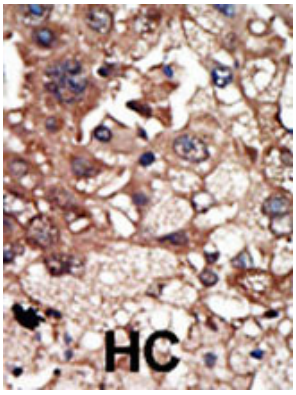
References

Wong, W.T., et al., Oncogene 9(10):3057-3061 (1994).

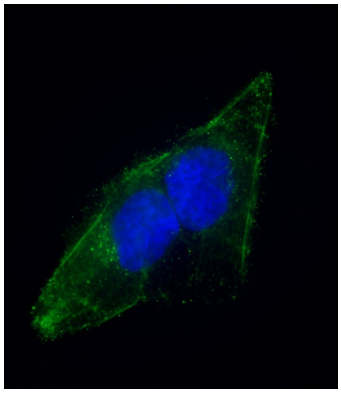
Images



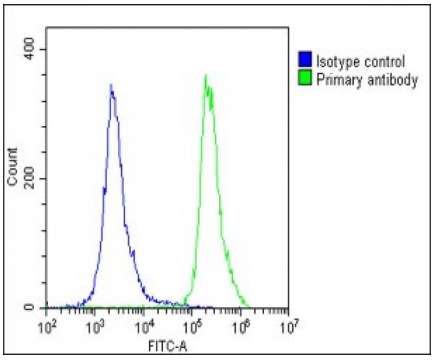
The anti-EPS8 Pab (Cat. #AP8148a) is used in Western blot to detect EPS8 in A375 cell lysate.



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.



Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized U-2OS cells labeling EPS8 with AP8148a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-Rabbit IgG (OH191631) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing membrance, cytoplasm weakly staining on U-2OS cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (1186255) at 1/500 dilution (red). The nuclear counter stain is DAPI (blue).



Overlay histogram showing U-2 OS cells stained with AP8148a(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP8148a, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(1583138) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

Citations

- Immunohistochemical markers in diagnosis of papillary thyroid carcinoma: Utility of HBME1 combined with CK19 immunostaining.

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