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EPS8 Rabbit pAb

Catalog # AP99054

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q12929
Other Accession	Q12929
Reactivity	Human, Mouse
Predicted	Rat, Pig, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	91882
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EPS8
Epitope Specificity	251-350/822
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the EPS8 family. Contains 1 PH domain. Contains 1 SH3 domain.
SUBUNIT	Homodimer. Part of a complex consisting of ABI1, EPS8 and SOS1. Interacts with MYO15A and DFNB31. Interacts with LANCL1. Interacts with EGFR; mediates EPS8 phosphorylation. Interacts with BAIAP2. Interacts with SHB.
Post-translational modifications	Ubiquitinated by the SCF(FBXW5) E3 ubiquitin-protein ligase complex during G2 phase, leading to its transient degradation and subsequent cell shape changes required to allow mitotic progression. Reappears at the midzone of dividing cells. Phosphorylation at Ser-625 and Thr-629 by MAPK following BDNF treatment promotes removal from actin and filopodia formation. Phosphorylated by several receptor tyrosine kinases.
DISEASE	Deafness, autosomal recessive, 102 (DFNB102) [MIM:615974]: A form of non-syndromic deafness characterized by profound hearing loss affecting all frequencies. Vestibular function is unaffected. Note=The disease is caused by mutations affecting the gene represented in this entry. Note=Defects in EPS8 are associated with some cancers, such as pancreatic, oral squamous cell carcinomas or pituitary cancers. Contributes to cell transformation in response to growth factor treatment and is overexpressed in a number of tumors, indicating that EPS8 levels must be tightly regulated.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the EPS8 family. This protein contains one PH domain and one SH3 domain. It functions as part of the EGFR pathway, though its exact role has not been determined. Highly similar proteins in other organisms are involved in the transduction of signals from Ras to Rac and growth factor-mediated actin remodeling. Alternate transcriptional splice variants of this gene have been observed but have not been thoroughly characterized. [provided by RefSeq, Jul 2008].

Additional Information

Gene ID	2059
Other Names	DFNB102; EPS8_HUMAN; EPS8; EGFR pathway substrate 8, signaling adaptor; epidermal growth factor receptor pathway substrate 8
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

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