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Robo Rabbit pAb

Catalog # AP98545

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9Y6N7
Other Accession	Q9Y6N7
Reactivity	Rat
Predicted	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	180930
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Robo
Epitope Specificity	51-150/1651
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 immunoglobulin superfamily. ROBO family. Contains 3 fibronectin type-III domains. Contains 5 Ig-like C2-type (immunoglobulin-like) domains.
Post-translational modifications	Ubiquitinated. May be deubiquitinated by USP33.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Specialized cells at the midline, which separates the left and right halves of the CNS, have a number of roles in directing growth cone behavior (1). In the vertebrate spinal cord, the insect ventral nerve cord and in C. elegans, midline cells produce guidance cues such as nectins and slit, which act as attractants and repellents, respectively (1). These cells may act as gatekeepers to prevent axons from crossing the midline and to induce a switch in growth cone responsiveness to guidance cues beyond the gateway (1). One such gatekeeper, Robo, is an axon guidance receptor that defines a novel subfamily of Ig superfamily proteins that are conserved from fruit flies to mammals (2,3). Robo acts as a receptor for the repellent Slit and functions in a cell-autonomous fashion (1-3). Non-crossing axons express high levels of Robo, whereas crossing axons express low levels of Robo before reaching the midline and high levels after they cross (1). Robo1 and Robo2 are two human homologs of the Drosophila protein Roundabout (2-4). Robo1 is also homologous to the C. elegans gene sax3, whereas Robo2 is homologous to the zebrafish gene astray (5,6).

Additional Information

Gene ID	6091
	CPHD8; DUTT1; NORS; NYS8; SAX3; Gm310; ROBO1_HUMAN; ROBO1; Deleted

Other Names	in U twenty twenty; H-Robo-1; ROBO1_MOUSE; roundabout guidance receptor 1; roundabout (axon guidance receptor, Drosophila) homolog 1; roundabout, axon guidance receptor, homolog 1 (Drosophila)
Dilution	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	ROBO1
Synonyms	DUTT1
Function	Receptor for SLIT1 and SLIT2 that mediates cellular responses to molecular guidance cues in cellular migration, including axonal navigation at the ventral midline of the neural tube and projection of axons to different regions during neuronal development (PubMed:10102268, PubMed:24560577). Interaction with the intracellular domain of FLRT3 mediates axon attraction towards cells expressing NTN1 (PubMed:24560577). In axon growth cones, the silencing of the attractive effect of NTN1 by SLIT2 may require the formation of a ROBO1-DCC complex (By similarity). Plays a role in the regulation of cell migration via its interaction with MYO9B; inhibits MYO9B-mediated stimulation of RHOA GTPase activity, and thereby leads to increased levels of active, GTP-bound RHOA (PubMed:26529257). May be required for lung development (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:O89026}. Endoplasmic reticulum-Golgi intermediate compartment membrane {ECO:0000250|UniProtKB:O55005}; Single-pass membrane protein {ECO:0000250|UniProtKB:O55005} Note=Detected at growth cones in thalamus neurons. Detected at growth cones in thalamus neurons (By similarity). PRRG4 prevents cell surface location and both colocalize in the Endoplasmic reticulum/Golgi adjacent to the cell nucleus (By similarity) {ECO:0000250|UniProtKB:O55005, ECO:0000250|UniProtKB:O89026}
Tissue Location	Widely expressed, with exception of kidney.

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