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Robo3 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54305

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q96MS0
Reactivity	Rat, Pig, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	148209
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Robo3
Epitope Specificity	251-350/1386
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Single-pass type I membrane protein
SIMILARITY	Belongs to the immunoglobulin superfamily. ROBO family. Contains 3 fibronectin type-III domains. Contains 5 Ig-like C2-type (immunoglobulin-like) domains.
DISEASE	Defects in ROBO3 are a cause of familial horizontal gaze palsy with progressive scoliosis (HGPPS) [MIM:607313]. Patients show a medulla where motor and sensory projections appear uncrossed.
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 is a member of the Roundabout (ROBO) gene family that controls neurite outgrowth, growth cone guidance, and axon fasciculation. ROBO proteins are a subfamily of the immunoglobulin transmembrane receptor superfamily. SLIT proteins 1-3, a family of secreted chemorepellants, are ligands for ROBO proteins and SLIT/ROBO interactions regulate myogenesis, leukocyte migration, kidney morphogenesis, angiogenesis, and vasculogenesis in addition to neurogenesis. This gene, ROBO3, has a putative extracellular domain with five immunoglobulin (Ig)-like loops and three fibronectin (Fn) type III motifs, a transmembrane segment, and a cytoplasmic tail with three conserved signaling motifs: CC0, CC2, and CC3 (CC for conserved cytoplasmic). Unlike other ROBO family members, ROBO3 lacks motif CC1. The ROBO3 gene regulates axonal navigation at the ventral midline of the neural tube. In mouse, loss of Robo3 results in a complete failure of commissural axons to cross the midline throughout the spinal cord and the hindbrain. Mutations ROBO3 result in horizontal gaze palsy with progressive scoliosis (HGPPS); an autosomal recessive disorder characterized by congenital absence of horizontal gaze, progressive scoliosis, and failure of the corticospinal and somatosensory axon tracts to cross the midline in the medulla. Alternative transcript variants have been described but have not been experimentally validated.

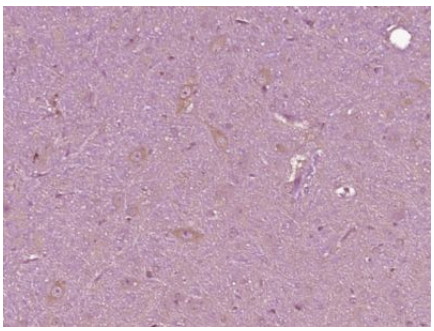
Additional Information

Gene ID	64221
Other Names	Roundabout homolog 3, Roundabout-like protein 3, ROBO3
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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	ROBO3 (HGNC:13433)
Function	Receptor involved in axon guidance during development (PubMed:15105459). Acts as a multifunctional regulator of pathfinding that simultaneously mediates NELL2 repulsion, inhibits SLIT repulsion, and facilitates Netrin-1/NTN1 attraction. In spinal cord development plays a role in guiding commissural axons probably by preventing premature sensitivity to Slit proteins thus inhibiting Slit signaling through ROBO1/ROBO2. Binding OF NELL2 to the receptor ROBO3 promotes oligomerization of ROBO3, resulting in the repulsion of commissural axons in the midline. ROBO3 also indirectly boosts axon attraction to NTN1 without interacting with NTN1 itself (By similarity).
Cellular Location	Membrane {ECO:0000250|UniProtKB:Q9Z2I4}; Single- pass type I membrane protein

Images



Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Robo3) Polyclonal Antibody, Unconjugated (AP54305) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.