10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Drebrin Rabbit pAb

Catalog # AP97225

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q16643
Other Accession	Q16643
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit, Chicken, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	71429
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Drebrin
Epitope Specificity	151-250/651
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 ADF-H domain.
SUBUNIT	Contains 1 ADF-H domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Drebrin is a major neuronal F-actin binding protein involved in the control of actin dynamics and neuronal morphogenesis. Three major isoforms of drebrin, resulting from alternative splicing of a single gene, have been identified in the brain: the embryonic isoforms designated E1 and E2 and the adult or A isoform (95-120 kDa). An additional truncated form of drebrin A, s-drebrin/A2 (42 kDa), is specifically expressed in the adult brain, but not in non-neuronal tissues. Drebrin is also widely expressed in a variety of cells including epithelial, endothelial, and smooth muscle cells and is associated at cell-cell adhering junction sites. Drebrin is thought to play a central role in the formation of axons and dendrites during neuronal development and in neuronal plasticity in the adult brain. The expression of each drebrin isoform is regulated throughout distinct phases in neuronal development. The earliest embryonic form E1, is thought to function in migration, while the E2 isoform, which replaces E1 during embryogenesis, is believed to play a role in migration as well as formation of axons and dendrites. Drebrin E2 is present at low levels in the adult brain. The drebrin A isoform, which is only present in mature neurons, is assumed to be involved in synaptic plasticity. Drebrin E2 and A isoforms are targeted to different regions of actin localization. In neurons, the E2 isoform localizes to the submembrane region, while the A isoform is specifically located and evenly distributed throughout the post-synaptic dendritic spine.

Additional Information

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Gene ID	
Other Names	D0S117E; DREB_HUMAN; DBN1; Developmentally-regulated brain protein; DREB_MOUSE; Drba; DREB_RAT; drebrin 1
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	DBN1
Synonyms	D0S117E
Function	Actin cytoskeleton-organizing protein that plays a role in the formation of cell projections (PubMed:20215400). Required for actin polymerization at immunological synapses (IS) and for the recruitment of the chemokine receptor CXCR4 to IS (PubMed:20215400). Plays a role in dendritic spine morphogenesis and organization, including the localization of the dopamine receptor DRD1 to the dendritic spines (By similarity). Involved in memory-related synaptic plasticity in the hippocampus (By similarity).
Cellular Location	Cytoplasm. Cell projection, dendrite. Cytoplasm, cell cortex. Cell junction. Cell projection, growth cone {ECO:0000250|UniProtKB:Q9QXS6}. Note=In the absence of antigen, evenly distributed throughout subcortical regions of the T-cell membrane and cytoplasm (PubMed:20215400). In the presence of antigen, distributes to the immunological synapse forming at the T-cell-APC contact area, where it localizes at the peripheral and distal supramolecular activation clusters (SMAC) (PubMed:20215400). Colocalized with RUFY3 and F-actin at the transitional domain of the axonal growth cone (By similarity) {ECO:0000250|UniProtKB:Q9QXS6, ECO:0000269|PubMed:20215400}
Tissue Location	Expressed in the brain, with expression in the molecular layer of the dentate gyrus, stratum pyramidale, and stratum radiatum of the hippocampus (at protein level) (PubMed:8838578). Also expressed in the terminal varicosities distributed along dendritic trees of pyramidal cells in CA4 and CA3 of the hippocampus (at protein level) (PubMed:8838578). Expressed in pyramidal cells in CA2, CA1 and the subiculum of the hippocampus (at protein level) (PubMed:8838578) Expressed in peripheral blood lymphocytes, including T-cells (at protein level) (PubMed:20215400). Expressed in the brain (PubMed:8216329, Ref.2). Expressed in the heart, placenta, lung, skeletal muscle, kidney, pancreas, skin fibroblasts, gingival fibroblasts and bone-derived cells (Ref.2) {ECO:0000269|PubMed:20215400, ECO:0000269|PubMed:8216329, ECO:0000269|PubMed:8838578, ECO:0000269|Ref.2}

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