

# Drebrin Rabbit pAb

Catalog # AP97225

## Product Information

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|----------------------------|-------------------------------------------------------------|
| <b>Application</b>         | IHC-P, IHC-F, IF                                            |
| <b>Primary Accession</b>   | <a href="#">Q16643</a>                                      |
| <b>Other Accession</b>     | <a href="#">Q16643</a>                                      |
| <b>Host</b>                | Rabbit                                                      |
| <b>Clonality</b>           | Polyclonal                                                  |
| <b>Calculated MW</b>       | 71429                                                       |
| <b>Physical State</b>      | Liquid                                                      |
| <b>Immunogen</b>           | KLH conjugated synthetic peptide derived from human Drebrin |
| <b>Epitope Specificity</b> | 151-250/651                                                 |
| <b>Isotype</b>             | IgG                                                         |
| <b>Purity</b>              | 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** 1627

**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

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**Name**

DBN1

**Synonyms**

DOS117E

**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}

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