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

Anti-Drebrin/DBN1 Antibody Picoband™ (monoclonal, 4F6E7)

Catalog # ABO16566

Product Information

Application	WB, IHC, FC
Primary Accession	Q16643
Host	Mouse
Isotype	Mouse IgG2a
Reactivity	Rat, Human, Mouse, Monkey
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Drebrin/DBN1 Antibody Picoband™ (monoclonal, 4F6E7) . Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat, Monkey.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	1627
Other Names	Drebrin, Developmentally-regulated brain protein, DBN1, D0S117E
Calculated MW	71429
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat, Monkey Immunohistochemistry(Paraffin-embedded Section), 2-5 □g/ml, Human, Rat Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 4F6E7
Immunogen	E.coli-derived human Drebrin/DBN1 recombinant protein (Position: H9-D649).
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

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}

Background

Drebrin is a protein that in humans is encoded by the DBN1 gene. The protein encoded by this gene is a cytoplasmic actin-binding protein thought to play a role in the process of neuronal growth. It is a member of the drebrin family of proteins that are developmentally regulated in the brain. A decrease in the amount of this protein in the brain has been implicated as a possible contributing factor in the pathogenesis of memory disturbance in Alzheimer's disease. At least two alternative splice variants encoding different protein isoforms have been described for this gene.

Images

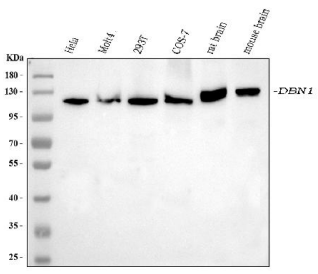


Figure 1. Western blot analysis of DBN1 using anti-DBN1 antibody (M05530-4).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates,
Lane 2: human Molt4 whole cell lysates,
Lane 3: human 293T whole cell lysates,
Lane 4: monkey COS-7 whole cell lysates,

Lane 5: rat brain tissue lysates,
Lane 6: mouse brain tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-DBN1 antigen affinity purified monoclonal antibody (Catalog # M05530-4) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for DBN1 at approximately 120 kDa. The expected band size for DBN1 is at 71 kDa.

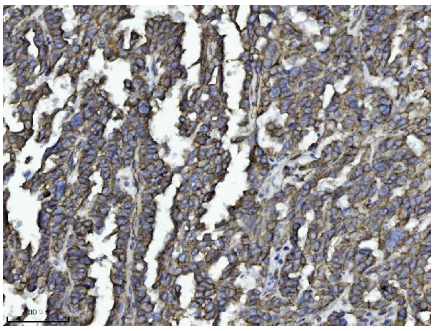


Figure 2. IHC analysis of DBN1 using anti-DBN1 antibody (M05530-4).
DBN1 was detected in a paraffin-embedded section of human ovarian serous carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-DBN1 Antibody (M05530-4) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

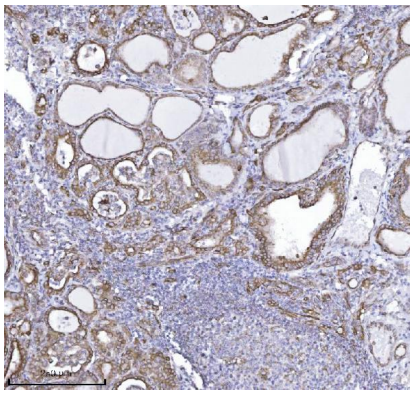


Figure 3. IHC analysis of DBN1 using anti-DBN1 antibody (M05530-4).
DBN1 was detected in a paraffin-embedded section of human thyroid cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-DBN1 Antibody (M05530-4) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

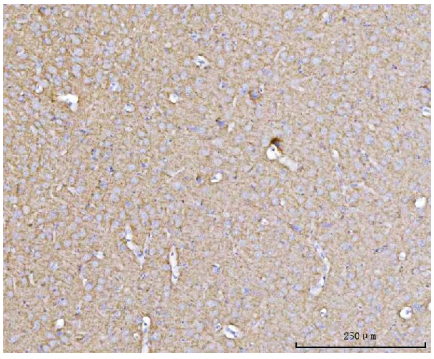


Figure 4. IHC analysis of DBN1 using anti-DBN1 antibody (M05530-4).
DBN1 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-DBN1 Antibody (M05530-4) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

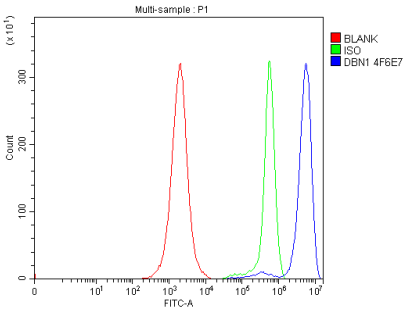


Figure 5. Flow Cytometry analysis of JK cells using anti-DBN1 antibody (M05530-4).
Overlay histogram showing JK cells stained with M05530-4 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-DBN1 Antibody (M05530-4, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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