Human Drebrin 1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7739

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Drebrin 1 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Drebrin 1 Asn482-Asp649 (Ser553Pro) Accession # Q16643
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

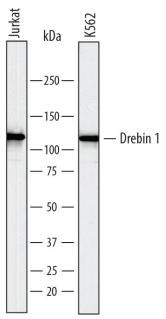
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below

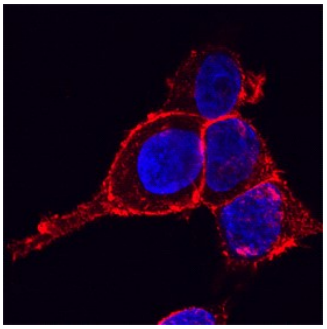
DATA

Western Blot



Detection of Human Drebrin 1 by Western Blot. Western blot shows lysates of Jurkat human acute T cell leukemia cell line and K562 human chronic myelogenous leukemia cell line. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human Drebrin 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7739) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Drebrin 1 at approximately 120 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



Drebrin 1 in HeLa Human Cell Line. Drebrin 1 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Sheep Anti-Human Drebrin 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7739) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to plasma membranes. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Drebrin 1 (DBN-1 [developmentally-regulated brain protein1]; also drebrin-E/E2 [Embryonic]) is an intracellular member of the ADF-H (actin-depolymerizing factor-H) family of actin binding proteins. Although its predicted MW is 72 kDa, it runs anomalously at 115-116 kDa in SDS-PAGE. It is expressed by neurons, gastric Parietal cells, astrocytes, distal convoluted tubule epithelium and proton-secreting intercalated cells of the renal collecting duct. Drebrin 1 interacts with multiple partners near the membrane. It links connexin-43 and F-actin, thereby stabilizing membrane gap junctions. It also binds to EB3 (end-binding protein 3) on microtubules, facilitating actin-microtubule interactions. Human Drebrin 1 is 649 amino acids (aa) in length. It contains one actin depolymerizing homology domain (aa 3-134), an actin-binding region (≈ aa 150-300), and two HOMER binding motifs (aa 539-543 and 617-621). There are at least 10 utilized Ser/Thr phosphorylation sites and one utilized Tyr phosphorylation site. Alternative splicing generates drebrin-A (Adult), a 124-126 kDa isoform that contains a 46 aa insert after Gly319. Drebrin-A is found in neurons and possibly podocytes, and is associated with dendritic spines where it inhibits the interaction of F-actin with α-actinin and tropomyosin. This favors the generation of excitatory impulses in neurons. Three other potential isoform variants are noted. One utilizes an alternative start site at Met64, a second shows a 60 aa substitution for aa 1-110, and a third contains a 28 aa substitution for aa 4-29. Over aa 482-649, human Drebrin 1 shares 84% aa sequence identity with mouse Drebrin 1.

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