

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Drebrin 1 in ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 838102
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Drebrin 1 Asn482-Asp649 (Ser553Pro) Accession # Q16643
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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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