SANTA CRUZ BIOTECHNOLOGY, INC.

Drebrin (C-8): sc-374269

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Drebrins (developmentally regulated brain proteins) are cytoplasmic proteins that bind F-Actin in the brain and are involved in cell migration, extension neuronal processes, and plasticity of dendrites. There are three isoforms: two embryonic types (E1 and E2), and an adult type (A) that are generated by alternative RNA splicing from a single Debrin gene. Drebrins are expressed mainly in brain neurons but are also found in skeletal muscle, heart, placenta, pancreas, and kidney. Drebrin has been designated as a marker of the dendritic spine. Decreases in Drebrin levels in the brain are associated with Alzheimer's disease and Down syndrome. The gene encoding for the human Drebrin protein is located on chromosome 5.

CHROMOSOMAL LOCATION

Genetic locus: DBN1 (human) mapping to 5q35.3; Dbn1 (mouse) mapping to 13 B1.

SOURCE

Drebrin (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 111-149 near the N-terminus of Drebrin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Drebrin (C-8) is available conjugated to agarose (sc-374269 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374269 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374269 PE), fluorescein (sc-374269 FITC), Alexa Fluor® 488 (sc-374269 AF488), Alexa Fluor® 546 (sc-374269 AF546), Alexa Fluor® 594 (sc-374269 AF594) or Alexa Fluor® 647 (sc-374269 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374269 AF680) or Alexa Fluor® 790 (sc-374269 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374269 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Drebrin (C-8) is recommended for detection of Drebrin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Drebrin (C-8) is also recommended for detection of Drebrin in additional species, including equine, canine, bovine and porcine.

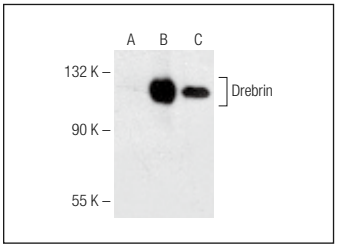
Suitable for use as control antibody for Drebrin siRNA (h): sc-43731, Drebrin siRNA (m): sc-63303, Drebrin shRNA Plasmid (h): sc-43731-SH, Drebrin shRNA Plasmid (m): sc-63303-SH, Drebrin shRNA (h) Lentiviral Particles: sc-43731-V and Drebrin shRNA (m) Lentiviral Particles: sc-63303-V.

Molecular Weight of Drebrin: 120 kDa.

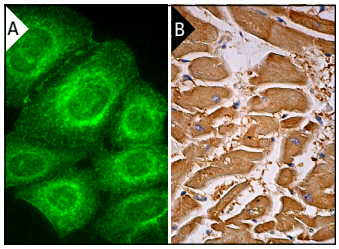
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Drebrin (C-8): sc-374269. Western blot analysis of Drebrin expression in non-transfected 293T: sc-117752 (**A**), mouse Drebrin transfected 293T: sc-119845 (**B**) and K-562 (**C**) whole cell lysates.



Drebrin (C-8): sc-374269. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Nair, R.R., et al. 2017. Dynamic Arc SUMOylation and selective interaction with F-Actin-binding protein Drebrin A in LTP consolidation *in vivo*. Front. Synaptic Neurosci. 9: 8.
2. Rodrigues-Amorim, D., et al. 2019. Proteomics in schizophrenia: a gateway to discover potential biomarkers of psychoneuroimmune pathways. Front. Psychiatry 10: 885.
3. Bott, C.J., et al. 2020. Nestin selectively facilitates the phosphorylation of the lissencephaly-linked protein Doublecortin (DCX) by Cdk5/p35 to regulate growth cone morphology and Sema3a sensitivity in developing neurons. J. Neurosci. 40: 3720-3740.
4. Walczyk-Mooradally, A., et al. 2021. Phosphorylation-dependent control of activity-regulated cytoskeleton-associated protein (Arc) protein by TNIK. J. Neurochem. 158: 1058-1073.
5. Flores-Muñoz, C., et al. 2022. The long-term Pannexin 1 ablation produces structural and functional modifications in hippocampal neurons. Cells 11: 3646.
6. Fic, E., et al. 2023. Identification of mitogen-activated protein kinase phosphatase-1 (MKP-1) protein partners using tandem affinity purification and mass spectrometry. Pharmacol. Rep. 75: 474-481.
7. Ansari, M.A., et al. 2023. Insights into early pathogenesis of sporadic Alzheimer's disease: role of oxidative stress and loss of synaptic proteins. Front. Neurosci. 17: 1273626.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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