SANTA CRUZ BIOTECHNOLOGY, INC.

Ankyrin B (2.20): sc-12718



BACKGROUND

Members of the Ankyrin family of proteins mediate the attachment of integral membrane proteins to the cytoskeleton. ANK1, ANK2 and ANK3 genes encode for the proteins in this family, Ankyrin-1 (also designated Ankyrin R), Ankyrin B and Ankyrin G, respectively. The proteins are structured similarly each composed of an N-terminal domain with multiple Ankyrin repeats, a highly conserved central spectrin binding domain, and C-terminal regulatory domains which are susceptible to the most variance. Both Ankyrin B and Ankyrin G are essential for normal neuronal functions. Ankyrin B, or brain Ankyrin is predominantly expressed in the plasma membrane of neurons as well as glial cells throughout the brain. Two transcripts have been described with alternative splicing resulting in additional isoforms. The Ankyrin B protein associates with the spectrin-Actin network, mediates axon fasciculation and stabilizes axon bundles. Ankyrin B is required for coordinated assembly of Na/Ca exchanger, Na/K ATPase, and inositol trisphosphate (InsP₃) receptor at transverse-tubule/sarcoplasmic reticulum sites in cardiomyocytes.

CHROMOSOMAL LOCATION

Genetic locus: ANK2 (human) mapping to 4q25; Ank2 (mouse) mapping to 3 G2.

SOURCE

Ankyrin B (2.20) is a mouse monoclonal antibody raised against the spectrin binding domain of Ankyrin B of human origin.

PRODUCT

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

Ankyrin B (2.20) is available conjugated to agarose (sc-12718 AC), 500 μ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-12718 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12718 PE), fluorescein (sc-12718 FITC), Alexa Fluor[®] 488 (sc-12718 AF488), Alexa Fluor[®] 546 (sc-12718 AF546), Alexa Fluor[®] 594 (sc-12718 AF594) or Alexa Fluor[®] 647 (sc-12718 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-12718 AF680) or Alexa Fluor[®] 790 (sc-12718 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Ankyrin B (2.20) is recommended for detection of Ankyrin B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Ankyrin B siRNA (h): sc-29680, Ankyrin B siRNA (m): sc-29681, Ankyrin B shRNA Plasmid (h): sc-29680-SH, Ankyrin B shRNA Plasmid (m): sc-29681-SH, Ankyrin B shRNA (h) Lentiviral Particles: sc-29680-V and Ankyrin B shRNA (m) Lentiviral Particles: sc-29681-V.

Molecular Weight of Ankyrin B isoforms: 220 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA





Ankyrin B (2.20): sc-12718. Western blot analysis of Ankyrin B expression in SH-SY5Y (A), NIH/3T3 (B), Neuro-2A (C) and C6 (D) whole cell lysates.

Ankyrin B (2.20): sc-12718. Western blot analysis of Ankyrin B expression in SK-N-SH (A), NTERA-2 cl.D1 (B) and Neuro-2A (C) whole cell lysates and rat eye tissue extract (D). Detection reagent used: m-IgGA BP-HRP (Cruz Marker): sc-516132-CM.

SELECT PRODUCT CITATIONS

- Er, E.E., et al. 2018. Pericyte-like spreading by disseminated cancer cells activates YAP and MRTF for metastatic colonization. Nat. Cell Biol. 20: 966-978.
- Lee, M., et al. 2020. Ecm29-mediated proteasomal distribution modulates excitatory GABA responses in the developing brain. J. Cell Biol. 219: e201903033.
- Zhuang, L., et al. 2021. IncRNA ZNF667-AS1 (NR_036521.1) inhibits the progression of colorectal cancer via regulating ANK2/JAK2 expression. J. Cell. Physiol. 236: 2178-2193.
- Grinman, E., et al. 2021. Activity-regulated synaptic targeting of IncRNA ADEPTR mediates structural plasticity by localizing Sptn1 and AnkB in dendrites. Sci. Adv. 7: eabf0605.
- 5. Cao, M.S., et al. 2022. Impairment of μ -calpain activation by rhTNFR:Fc reduces severe burn-induced membrane disruption in the heart. Cell Death Discov. 8: 10.

STORAGE

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

RESEARCH USE

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

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