

Ankyrin G (P-20): sc-31778

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 G was originally identified localized to the nodes of Ranvier and axon initial segments where it was found to mediate normal neuronal sodium channel function. Ankyrin G, named for its giant size and general expression, exhibits tissue-specific alternative mRNA processing. The two largest protein isoforms are expressed only in nervous tissue, with additional smaller isoforms found in an array of other tissues including lung, kidney, spleen, liver and heart.

REFERENCES

1. Kordeli, E., et al. 1995. Ankyrin G. A new ankyrin gene with neural-specific isoforms localized at the axonal initial segment and node of Ranvier. *J. Biol. Chem.* 270: 2352-2359.
2. Zhang, X. and Bennett, V. 1998. Restriction of 480/270-kDa Ankyrin G to axon proximal segments requires multiple Ankyrin G-specific domains. *J. Cell Biol.* 142: 1571-1581.
3. Bennett, V. and Lambert, S. 1999. Physiological roles of axonal ankyrins in survival of premyelinated axons and localization of voltage-gated sodium channels. *J. Neurocytol.* 28: 303-318.
4. Hryniewicz-Jankowska, A., et al. 2002. Ankyrins, multifunctional proteins involved in many cellular pathways. *Folia Histochem. Cytobiol.* 40: 239-249.

CHROMOSOMAL LOCATION

Genetic locus: ANK3 (human) mapping to 10q21.2; Ank3 (mouse) mapping to 10 B5.3.

SOURCE

Ankyrin G (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Ankyrin G of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31778 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Ankyrin G (P-20) is recommended for detection of Ankyrin G 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Ankyrin G (P-20) is also recommended for detection of Ankyrin G in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Ankyrin G siRNA (h): sc-43263, Ankyrin G siRNA (m): sc-43268, Ankyrin G shRNA Plasmid (h): sc-43263-SH, Ankyrin G shRNA Plasmid (m): sc-43268-SH, Ankyrin G shRNA (h) Lentiviral Particles: sc-43263-V and Ankyrin G shRNA (m) Lentiviral Particles: sc-43268-V.

Molecular Weight of brain-specific Ankyrin G isoforms: 480/270 kDa.

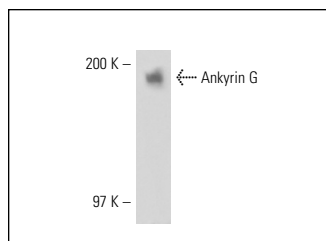
Molecular Weight of other Ankyrin G isoforms: 50-190 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, U-2 OS cell lysate: sc-2295 or mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Ankyrin G (P-20): sc-31778. Western blot analysis of Ankyrin G expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Puthussery, T., et al. 2013. Nav1.1 channels in axon initial segments of bipolar cells augment input to magnocellular visual pathways in the primate retina. *J. Neurosci.* 33: 16045-16059.