

Ankyrin G (H-215): sc-28561

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.

CHROMOSOMAL LOCATION

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

SOURCE

Ankyrin G (H-215) is a rabbit polyclonal antibody raised against amino acids 4163-4377 mapping at 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.

RESEARCH USE

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

APPLICATIONS

Ankyrin G (H-215) 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), 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).

Ankyrin G (H-215) is also recommended for detection of Ankyrin G in additional species, including equine, canine and porcine.

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

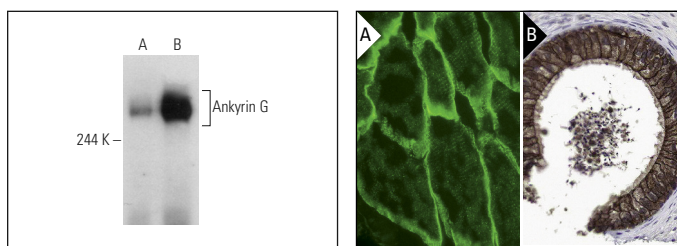
Molecular Weight of other Ankyrin G isoforms: 50-190 kDa.

Positive Controls: Ankyrin G (h2): 293T Lysate: sc-176843, Caco-2 cell lysate: sc-2262 and rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Ankyrin G (H-215): sc-28561. Western blot analysis of Ankyrin G expression in non-transfected: sc-117752 (A) and human Ankyrin G transfected: sc-176843 (B) 293T whole cell lysates.

Ankyrin G (H-215): sc-28561. Immunofluorescence staining of normal mouse skin frozen section showing membrane staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymus tissue showing cytoplasmic, membrane, and nuclear staining of glandular cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Sarmiere, P.D., et al. 2008. The Kv2.1 K⁺ channel targets to the axon initial segment of hippocampal and cortical neurons in culture and *in situ*. BMC Neurosci. 9: 112.
- Thomas, E.A., et al. 2009. Heat opens axon initial segment sodium channels: a febrile seizure mechanism? Ann. Neurol. 66: 219-226.
- Silva, E. and Soares-da-Silva, P. 2009. Protein cytoskeleton and overexpression of Na⁺,K⁺-ATPase in opossum kidney cells. J. Cell. Physiol. 221: 318-324.
- Reimer, M.M., et al. 2011. Rapid disruption of axon-glia integrity in response to mild cerebral hypoperfusion. J. Neurosci. 31: 18185-18194.
- Koike, M., et al. 2013. Enrichment of GABARAP relative to LC3 in the axonal initial segments of neurons. PLoS ONE 8: e63568.
- Jones, S.L., et al. 2014. Axon initial segment cytoskeleton comprises a multiprotein submembranous coat containing sparse actin filaments. J. Cell Biol. 205: 67-81.

STORAGE

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