

AHNAK2 (G-20): sc-244881

BACKGROUND

AHNAK2 (AHNAK nucleoprotein 2) is a 5,795 amino acid protein that functions in protein binding activities. Encoded by a gene that maps to human chromosome 14q32.33, AHNAK2 localizes to the nucleus and exists as three alternatively spliced isoforms. Composed of a large number of highly conserved repeat segments, AHNAK2 contains one PDZ (DHR) domain and at least seven exons, with the first six being relatively small and the seventh almost 18 kb in size. AHNAK2 likely contains its PDZ (DHR) domain within its nonrepeating N-terminus, suggesting AHNAK2 is involved in calcium channel functions and the regulation of excitation/contraction coupling of cardiomyocytes. AHNAK2 may be associated with degenerative muscle disorders.

REFERENCES

- Komuro, A., Masuda, Y., Kobayashi, K., Babbitt, R., Gunel, M., Flavell, R.A. and Marchesi, V.T. 2004. The AHNAKs are a class of giant propeller-like proteins that associate with calcium channel proteins of cardiomyocytes and other cells. *Proc. Natl. Acad. Sci. USA* 101: 4053-4058.
- Ding, Z., Liang, J., Lu, Y., Yu, Q., Songyang, Z., Lin, S.Y. and Mills, G.B. 2006. A retrovirus-based protein complementation assay screen reveals functional AKT1-binding partners. *Proc. Natl. Acad. Sci. USA* 103: 15014-15019.
- Haase, H. 2007. Ahnak, a new player in beta-adrenergic regulation of the cardiac L-type Ca²⁺ channel. *Cardiovasc. Res.* 73: 19-25.
- Huang, Y., Laval, S.H., van Remoortere, A., Baudier, J., Benaud, C., Anderson, L.V., Straub, V., Deelder, A., Frants, R.R., den Dunnen, J.T., Bushby, K. and van der Maarel, S.M. 2007. AHNAK, a novel component of the dysferlin protein complex, redistributes to the cytoplasm with dysferlin during skeletal muscle regeneration. *FASEB J.* 21: 732-742.
- Huang, Y., de Morree, A., van Remoortere, A., Bushby, K., Frants, R.R., Dunnen, J.T. and van der Maarel, S.M. 2008. Calpain 3 is a modulator of the dysferlin protein complex in skeletal muscle. *Hum. Mol. Genet.* 17: 1855-1866.
- Alli, A.A. and Gower, W.R. 2009. The C type natriuretic peptide receptor tethers AHNAK1 at the plasma membrane to potentiate arachidonic acid-induced calcium mobilization. *Am. J. Physiol., Cell Physiol.* 297: C1157-C1167.
- Hower, S., Wolf, K. and Fields, K.A. 2009. Evidence that CT694 is a novel *Chlamydia trachomatis* T3S substrate capable of functioning during invasion or early cycle development. *Mol. Microbiol.* 72: 1423-1437.
- Marg, A., Haase, H., Neumann, T., Kouno, M. and Morano, I. 2010. AHNAK1 and AHNAK2 are costameric proteins: AHNAK1 affects transverse skeletal muscle fiber stiffness. *Biochem. Biophys. Res. Commun.* 401: 143-148.
- Alvarez, J.L., Petzhold, D., Pankonien, I., Behlke, J., Kouno, M., Vassort, G., Morano, I. and Haase, H. 2010. Ahnak1 modulates L-type Ca²⁺ channel inactivation of rodent cardiomyocytes. *Pflugers Arch.* 460: 719-730.

CHROMOSOMAL LOCATION

Genetic locus: Ahnak2 (mouse) mapping to 12 F1.

SOURCE

AHNAK2 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AHNAK2 of mouse 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-244881 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AHNAK2 (G-20) is recommended for detection of AHNAK2 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with AHNAK.

Suitable for use as control antibody for AHNAK2 siRNA (m): sc-140917, AHNAK2 siRNA (m): sc-147570, AHNAK2 shRNA Plasmid (m): sc-140917-SH, AHNAK2 shRNA Plasmid (m): sc-147570-SH, AHNAK2 shRNA (m) Lentiviral Particles: sc-140917-V and AHNAK2 shRNA (m) Lentiviral Particles: sc-147570-V.

Molecular Weight of AHNAK2: 600 kDa.

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) 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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.