

AHNAK (1G11): sc-134252

BACKGROUND

AHNAK (neuroblast differentiation-associated protein AHNAK, desmoyokin) is a 5,890 amino acid protein encoded by the human gene AHNAK. The intronless AHNAK gene is located on human chromosome 11q12.3 and has three main structural regions: the 251 amino acid N-terminus, a large central region of 4,390 amino acids with multiple repeated units of about 128 amino acids in length, and the 1,002 amino acid C-terminus. The central region seems to have antiparallel β -strands connected by intervening loops. Several putative regulatory elements are clustered within the C-terminal region, including nuclear export localization signals, a leucine zipper, and potential phosphorylation sites for Akt1 and PKC. AHNAK is believed to be an important signalling molecule involved in a wide range of physiological activities and may be required for neuronal cell differentiation. AHNAK also appears to influence β -adrenergic regulation of cardiac L-type Ca^{2+} channel function.

REFERENCES

1. von Boxberg, Y., et al. 2006. Spinal cord injury-induced upregulation of AHNAK, expressed in cells delineating cystic cavities, and associated with neoangiogenesis. *Eur. J. Neurosci.* 24: 1031-1041.
2. De Seranno, S., et al. 2006. Identification of an AHNAK binding motif specific for the Annexin2/S100A10 tetramer. *J. Biol. Chem.* 281: 35030-35038.
3. Haase, H. 2007. AHNAK, a new player in β -adrenergic regulation of the cardiac L-type Ca^{2+} channel. *Cardiovasc. Res.* 73: 19-25.
4. Huang, Y., et al. 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.
5. Wu, E.H., et al. 2007. Effect of hypoxia on the gene profile of human bone marrow-derived mesenchymal stem cells. *Sheng Li Xue Bao* 59: 227-232.
6. Cocucci, E., et al. 2007. Enlargeosome traffic: exocytosis triggered by various signals is followed by endocytosis, membrane shedding or both. *Traffic* 8: 742-757.
7. Lee, I.H., et al. 2008. AHNAK protein activates PKC through dissociation of PKC-PP2A complex. *J. Biol. Chem.* 283: 6312-6320.

CHROMOSOMAL LOCATION

Genetic locus: AHNAK (human) mapping to 11q12.3; Ahnak (mouse) mapping to 19 A.

SOURCE

AHNAK (1G11) is a mouse monoclonal antibody raised against recombinant AHNAK protein of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

AHNAK (1G11) is recommended for detection of AHNAK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AHNAK siRNA (h): sc-97060, AHNAK siRNA (m): sc-140916, AHNAK shRNA Plasmid (h): sc-97060-SH, AHNAK shRNA Plasmid (m): sc-140916-SH, AHNAK shRNA (h) Lentiviral Particles: sc-97060-V and AHNAK shRNA (m) Lentiviral Particles: sc-140916-V.

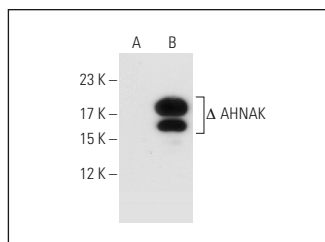
Molecular Weight of AHNAK: 630 kDa.

Positive Controls: AHNAK (h): 293T Lysate: sc-110790 or human AHNAK transfected 293T whole cell lysate.

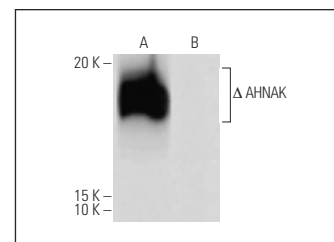
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ 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).

DATA



AHNAK (1G11): sc-134252. Western blot analysis of AHNAK expression in non-transfected: sc-117752 (A) and truncated human AHNAK transfected: sc-110790 (B) 293T whole cell lysates.



AHNAK (1G11): sc-134252. Western blot analysis of AHNAK expression in truncated human AHNAK transfected (A) and non-transfected (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Cho, W.C., et al. 2020. SORBS1 serves a metastatic role via suppression of AHNAK in colorectal cancer cell lines. *Int. J. Oncol.* 56: 1140-1151.
2. Zhou, L., et al. 2022. LncRNA-RMST functions as a transcriptional co-regulator of SOX2 to regulate miR-1251 in the progression of Hirschsprung's disease. *Front. Pediatr.* 10: 749107.

RESEARCH USE

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

PROTOCOLS

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