SANTA CRUZ BIOTECHNOLOGY, INC.

AHNAK (E-5): sc-390743

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: AHNAK (human) mapping to 11q12.3.

SOURCE

AHNAK (E-5) is a mouse monoclonal antibody raised against amino acids 5568-5720 mapping near the C-terminus of AHNAK of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AHNAK (E-5) is available conjugated to agarose (sc-390743 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390743 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390743 PE), fluorescein (sc-390743 FITC), Alexa Fluor® 488 (sc-390743 AF488), Alexa Fluor® 546 (sc-390743 AF546), Alexa Fluor® 594 (sc-390743 AF594) or Alexa Fluor® 647 (sc-390743 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390743 AF680) or Alexa Fluor® 790 (sc-390743 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

AHNAK (E-5) is recommended for detection of AHNAK of human origin by Western Blotting (starting dilution 1:100, 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).

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

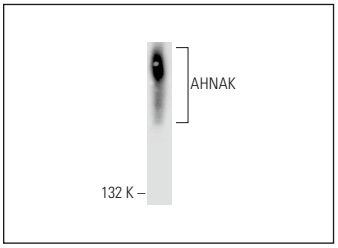
Molecular Weight of AHNAK: 630 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

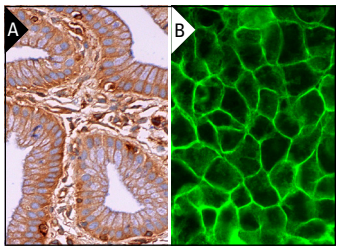
STORAGE

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

DATA



AHNAK (E-5): sc-390743. Western blot analysis of AHNAK expression in HeLa nuclear extract.



AHNAK (E-5): sc-390743. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells (**A**). Immunofluorescence staining of formalin-fixed HeLa cells showing membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. Silva, T.A., et al. 2016. AHNAK enables mammary carcinoma cells to produce extracellular vesicles that increase neighboring fibroblast cell motility. Oncotarget 7: 49998-50016.
2. Eggert, E., et al. 2016. Discovery and characterization of a highly potent and selective aminopyrazoline-based *in vivo* probe (BAY-598) for the protein lysine methyltransferase SMYD2. J. Med. Chem. 59: 4578-4600.
3. Ghodke, I., et al. 2021. AHNAK controls 53BP1-mediated p53 response by restraining 53BP1 oligomerization and phase separation. Mol. Cell 81: 2596-2610.e7.
4. Li, Y., et al. 2021. Peptide derived from AHNAK inhibits cell migration and proliferation in Hirschsprung's disease by targeting the ERK1/2 pathway. J. Proteome Res. 20: 2308-2318.
5. Dai, Y., et al. 2021. METTL3-mediated m^6A RNA modification regulates corneal injury repair. Stem Cells Int. 2021: 5512153.
6. Zhang, Z., et al. 2022. Identification and validation of an immune signature associated with EMT and metabolic reprogramming for predicting prognosis and drug response in bladder cancer. Front. Immunol. 13: 954616.
7. Militaru, I.V., et al. 2023. New panel of biomarkers to discriminate between amelanotic and melanotic metastatic melanoma. Front. Oncol. 12: 1061832.

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.