

SNARK (C-12): sc-374348

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. SNARK (SNF1/AMP kinase-related kinase), also known as NUAK2 (NUAK family, SNF1-like kinase, 2), is a 628 amino acid protein that contains one protein kinase domain and belongs to the Ser/Thr protein kinase family. Using magnesium as a cofactor, SNARK catalyzes the ATP-dependent phosphorylation of target proteins and is involved in regulating cell tolerance to stress-induced glucose starvation. Additionally, SNARK is thought to induce cell-cell detachment and may protect cells from Fap-1-mediated apoptosis, possibly playing a role in the motility and invasiveness of tumor cells.

CHROMOSOMAL LOCATION

Genetic locus: NUAK2 (human) mapping to 1q32.1; Nuak2 (mouse) mapping to 1 E4.

SOURCE

SNARK (C-12) is a mouse monoclonal antibody raised against amino acids 501-628 mapping at the C-terminus of SNARK of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SNARK (C-12) is available conjugated to agarose (sc-374348 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374348 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374348 PE), fluorescein (sc-374348 FITC), Alexa Fluor® 488 (sc-374348 AF488), Alexa Fluor® 546 (sc-374348 AF546), Alexa Fluor® 594 (sc-374348 AF594) or Alexa Fluor® 647 (sc-374348 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374348 AF680) or Alexa Fluor® 790 (sc-374348 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SNARK (C-12) is recommended for detection of SNARK of mouse, rat and 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 SNARK siRNA (h): sc-88608, SNARK siRNA (m): sc-153652, SNARK shRNA Plasmid (h): sc-88608-SH, SNARK shRNA Plasmid (m): sc-153652-SH, SNARK shRNA (h) Lentiviral Particles: sc-88608-V and SNARK shRNA (m) Lentiviral Particles: sc-153652-V.

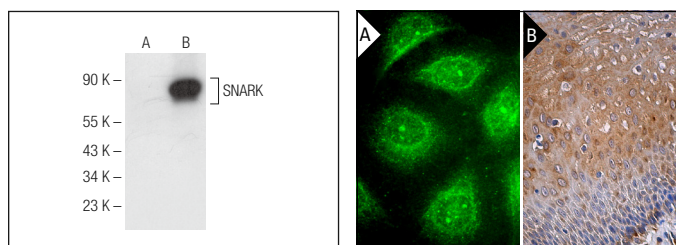
Molecular Weight of SNARK: 74 kDa.

Positive Controls: SNARK (h): 293T Lysate: sc-129802.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SNARK (C-12): sc-374348. Western blot analysis of SNARK expression in non-transfected: sc-117752 (A) and human SNARK transfected: sc-129802 (B) 293T whole cell lysates.

SNARK (C-12): sc-374348. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Zineldeen, D.H., et al. 2016. Sucrose non-fermenting AMPK related kinase/Pentraxin 3 and DNA damage axis: a gateway to cardiovascular disease in systemic lupus erythematosus among Egyptian patients. *Ann. Clin. Biochem.* 53: 240-251.
- Yuan, W.C., 2018. NUAK2 is a critical YAP target in liver cancer. *Nat. Commun.* 9: 4834.
- Li, Y., et al. 2021. NUAK2 silencing inhibits the proliferation, migration and epithelial-to-mesenchymal transition of cervical cancer cells via upregulating CYFIP2. *Mol. Med. Rep.* 24: 817.

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 for detailed protocols and support products.

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