SANTA CRUZ BIOTECHNOLOGY, INC.

QSK (C-2): sc-515408

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. The salt-inducible kinases (SIKs) are a family of related serine-threonine kinases and are key enzymes that modulate important processes such as steroid hormone biosynthesis and Insulin signaling in adipocytes. QSK, also known as L19 or SIK3 (salt-inducible kinase 3), is a 1,263 amino acid cytoplasmic protein belonging to the protein kinase superfamily, CAMK Ser/Thr protein kinase family and the AMPK subfamily. Ubiquitously expressed, QSK consists of one protein kinase domain and a UBA domain. QSK is activated by 14-3-3 ζ and utilizes magnesium as a cofactor. QSK exists as three alternatively spliced isoforms.

CHROMOSOMAL LOCATION

Genetic locus: SIK3 (human) mapping to 11q23.3; Sik3 (mouse) mapping to 9 A5.2.

SOURCE

QSK (C-2) is a mouse monoclonal antibody raised against amino acids 460-616 mapping within an internal region of QSK of human origin.

PRODUCT

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

QSK (C-2) is available conjugated to agarose (sc-515408 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515408 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515408 PE), fluorescein (sc-515408 FITC), Alexa Fluor® 488 (sc-515408 AF488), Alexa Fluor® 546 (sc-515408 AF546), Alexa Fluor® 594 (sc-515408 AF594) or Alexa Fluor® 647 (sc-515408 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515408 AF680) or Alexa Fluor® 790 (sc-515408 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

QSK (C-2) is recommended for detection of QSK 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for QSK siRNA (h): sc-97056, QSK siRNA (m): sc-141570, QSK shRNA Plasmid (h): sc-97056-SH, QSK shRNA Plasmid (m): sc-141570-SH, QSK shRNA (h) Lentiviral Particles: sc-97056-V and QSK shRNA (m) Lentiviral Particles: sc-141570-V.

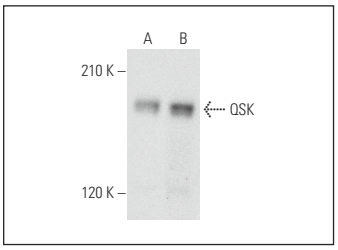
Molecular Weight of QSK: 140 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237 or MDA-MB-231 cell lysate: sc-2232.

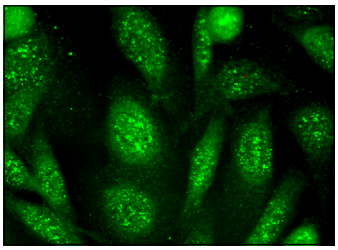
RECOMMENDED SUPPORT REAGENTS

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.

DATA



QSK (C-2): sc-515408. Western blot analysis of QSK expression in SK-N-MC (**A**) and MDA-MB-231 (**B**) whole cell lysates.



QSK (C-2): sc-515408. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2022. Biochemical purification uncovers mammalian sterile 3 (MST3) as a new protein kinase for multifunctional protein kinases AMPK and SIK3. J. Biol. Chem. 298: 101929.
2. Pu, J., et al. 2022. Salt-inducible kinase 1 deficiency promotes vascular remodeling in pulmonary arterial hypertension via enhancement of yes-associated protein-mediated proliferation. Heliyon 8: e11016.

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.