SANTA CRUZ BIOTECHNOLOGY, INC.

SgK269 (EB-8): sc-100403

BACKGROUND

The critical involvement of protein tyrosine kinases in signal transduction pathways is well established. These kinases can be divided into two major groups, including the receptor tyrosine kinases and the non-receptor type kinases. Non-receptor type kinases, such as Src kinases, are generally associated with the internal portion of the plasma membrane and may function as signal transducers in association with surface receptors that lack an intracellular catalytic domain. The receptor tyrosine kinase group is comprised of more than 50 members, belonging to 14 families. Ligand-induced tyrosine phosphorylation of such receptors induces receptor dimerization and subsequent autophosphorylation of specific individual phosphotyrosine residues located within their cytoplasmic domains, which serve as binding sites that interact with specific cytoplasmic molecules. SgK269 (sugen kinase 269), also known as NKF3 kinase family member, is a 1,746 amino acid protein that belongs to the protein kinase superfamily. SgK269 contains one protein kinase domain and is believed to function as a protein tyrosine kinase.

REFERENCES

1. Friedman, B., et al. 1984. Tumor promoters block tyrosine specific phosphorylation of epidermal growth factor receptor. Proc. Natl. Acad. Sci. USA 81: 3034-3038.
2. Foulkes, J.G., et al. 1985. Purification and characterization of a protein tyrosine kinase encoded by the Abelson murine leukemia virus. J. Biol. Chem. 260: 8070-8077.
3. Fantl, W.J., et al. 1993. Signalling by receptor tyrosine kinases. Annu. Rev. Biochem. 62: 453-481.
4. Lemmon, M.A. and Schlessinger, J. 1994. Regulation of signal transduction and signal diversity by receptor oligomerization. Trends Biochem. Sci. 19: 459-463.
5. Ohara, O., et al. 2002. Characterization of size-fractionated cDNA libraries generated by the *in vitro* recombination-assisted method. DNA Res. 9: 47-57.
6. Manning, G., et al. 2002. The protein kinase complement of the human genome. Science 298: 1912-1934.
7. Caenepeel, S., et al. 2004. The mouse kinome: discovery and comparative genomics of all mouse protein kinases. Proc. Natl. Acad. Sci. USA 101: 11707-11712.

CHROMOSOMAL LOCATION

Genetic locus: PEAK1 (human) mapping to 15q24.3.

SOURCE

SgK269 (EB-8) is a mouse monoclonal antibody raised against recombinant SgK269 of human origin.

PRODUCT

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

APPLICATIONS

SgK269 (EB-8) is recommended for detection of SgK269 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 SgK269 siRNA (h): sc-90265, SgK269 shRNA Plasmid (h): sc-90265-SH and SgK269 shRNA (h) Lentiviral Particles: sc-90265-V.

Molecular Weight of SgK269: 193 kDa.

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).

SELECT PRODUCT CITATIONS

1. Liu, L., et al. 2016. Homo- and heterotypic association regulates signaling by the SgK269/PEAK1 and SgK223 pseudokinases. J. Biol. Chem. 291: 21571-21583.
2. Alidoust Saharkhiz Lahiji, M. and Safari, F. 2022. Potential therapeutic effects of hAMSCs secretome on Panc1 pancreatic cancer cells through downregulation of SgK269, E-cadherin, vimentin, and snail expression. Biologicals 76: 24-30.
3. Ha, D.P., et al. 2022. Targeting GRP78 suppresses oncogenic KRAS protein expression and reduces viability of cancer cells bearing various KRAS mutations. Neoplasia 33: 100837.
4. Yang, X., et al. 2024. Feed-forward stimulation of CAMK2 by the oncogenic pseudokinase PEAK1 generates a therapeutically "actionable" signalling axis in triple negative breast cancer. bioRxiv. E-published.

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.