

# SgK223 (A-6): sc-398164

## BACKGROUND

The Ras p21 family of guanine nucleotide proteins has been widely studied in view of its role in signal transduction pathways and high frequency of mutations in human malignancies. The founding members of the Ras family (H-, K- and N-Ras p21) are members of a much larger superfamily of related proteins. Six members of this family, Rap 1A, Rap 1B, Rap 2, R-Ras, Ral A and Ral B, exhibit approximately 50% amino acid homology to Ras. The mammalian Rho proteins (Rho A, B, C, 6, 7 and 8) are approximately 30% homologous to Ras and are expressed in a wide range of cell types. Three Rho-related GTPases Rnd1 (Rho 6), Rnd2 (Rho 7), and Rnd3 (Rho 8 or Rho E) form a distinct branch of the Rho family since they differ from other Rho proteins in size, charge, and biochemical properties. Rnd proteins are likely to be farnesylated, and appear to be constitutively in the activated GTP-bound form. Rnd proteins act as negative regulators of Actin assembly and of cell adhesion. Rnd2 binds to SgK223 (sugen kinase 223) in a GTP-dependent manner. Rnd2-bound SgK223 stimulates Rho A activity and induces cell contraction to regulate neurite outgrowth.

## REFERENCES

- Madaule, P. and Axel, R. 1985. A novel Ras-related gene family. *Cell* 41: 31-40.
- Barbacid, M. 1987. Ras genes. *Annu. Rev. Biochem.* 56: 779-827.
- Yeremian, P., et al. 1987. Nucleotide sequence of human rho cDNA clone 12. *Nucleic Acids Res.* 15: 1869.
- Chardin, P. 1988. The Ras superfamily proteins. *Biochimie* 70: 865-868.

## CHROMOSOMAL LOCATION

Genetic locus: SGK223 (human) mapping to 8p23.1; D8Ert82e (mouse) mapping to 8 A4.

## SOURCE

SgK223 (A-6) is a mouse monoclonal antibody raised against amino acids 1-56 mapping at the N-terminus of SgK223 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SgK223 (A-6) is available conjugated to agarose (sc-398164 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398164 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398164 PE), fluorescein (sc-398164 FITC), Alexa Fluor® 488 (sc-398164 AF488), Alexa Fluor® 546 (sc-398164 AF546), Alexa Fluor® 594 (sc-398164 AF594) or Alexa Fluor® 647 (sc-398164 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398164 AF680) or Alexa Fluor® 790 (sc-398164 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

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

## APPLICATIONS

SgK223 (A-6) is recommended for detection of SgK223 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 Sgk223 siRNA (h): sc-77433, Sgk223 siRNA (m): sc-142856, Sgk223 shRNA Plasmid (h): sc-77433-SH, Sgk223 shRNA Plasmid (m): sc-142856-SH, Sgk223 shRNA (h) Lentiviral Particles: sc-77433-V and Sgk223 shRNA (m) Lentiviral Particles: sc-142856-V.

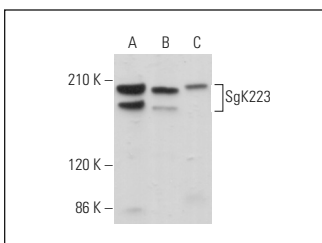
Molecular Weight of SgK223: 175 kDa.

Positive Controls: human tonsil tissue extract: sc-364263, rat eye extract: sc-364805 or A549 cell lysate: sc-2413.

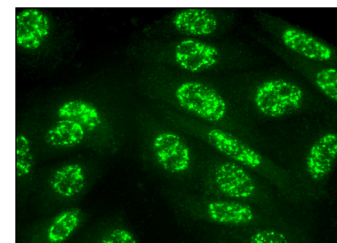
## RECOMMENDED SUPPORT REAGENTS

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



SgK223 (A-6): sc-398164. Western blot analysis of SgK223 expression in A549 whole cell lysate (A) and human tonsil (B) and rat eye (C) tissue extracts.



SgK223 (A-6): sc-398164. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Lee, S.H., et al. 2018. Widespread intronic polyadenylation inactivates tumour suppressor genes in leukaemia. *Nature* 561: 127-131.
- Fu, Y., et al. 2019. Small nucleolar RNA host gene 1 promotes development and progression of colorectal cancer through negative regulation of miR-137. *Mol. Carcinog.* 58: 2104-2117.

## STORAGE

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