

BACKGROUND

Raf kinase inhibitor protein (RKIP) is a cytosolic protein that was initially characterized as a phosphatidylethanolamine-binding protein (PBP) expressed in brain tissue and secreted from testis fluid. In addition, RKIP was identified by yeast two-hybrid screening of human T cell libraries directed at identifying proteins that associate with the BXB kinase domain of the serine/threonine kinase, Raf-1. Subsequent *in vitro* and *in vivo* studies indicate that RKIP binds to both the active and inactive forms of Raf-1 and thereby regulates the signaling cascade of the MAP kinase pathway. The specific association of RKIP with kinase-active Raf-1 competitively inhibits the binding and activation of the Raf-1 substrate MEK. RKIP, in turn, affects downstream MAP kinase signaling by decreasing the activation of MEK effector proteins, including ERK 1 and ERK 2, and the subsequent induction of AP-1 mediated transcription.

REFERENCES

1. Perry, A.C., et al. 1994. Sequence analysis of a mammalian phospholipid-binding protein from testis and epididymis and its distribution between spermatozoa and extracellular secretions. *Biochem. J.* 301: 235-242.
2. Minden, A., et al. 1994. Differential activation of ERK and JNK mitogen-activated protein kinases by Raf-1 and MEKK. *Science* 266: 1719-1723.

CHROMOSOMAL LOCATION

Genetic locus: PEBP1 (human) mapping to 12q24.23; Pebp1 (mouse) mapping to 5 F.

SOURCE

RKIP (8) is a mouse monoclonal antibody raised against recombinant RKIP 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.

APPLICATIONS

RKIP (8) is recommended for detection of RKIP of mouse, rat and 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)], 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).

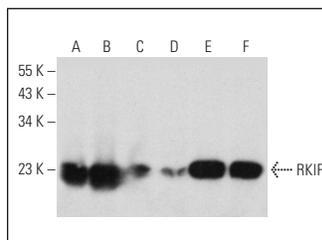
Suitable for use as control antibody for RKIP siRNA (h): sc-36430, RKIP siRNA (m): sc-36431, RKIP shRNA Plasmid (h): sc-36430-SH, RKIP shRNA Plasmid (m): sc-36431-SH, RKIP shRNA (h) Lentiviral Particles: sc-36430-V and RKIP shRNA (m) Lentiviral Particles: sc-36431-V.

Molecular Weight of RKIP: 23 kDa.

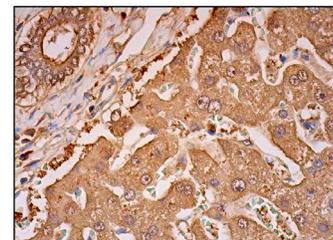
Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or HL-60 whole cell lysate: sc-2209.

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

RKIP (8): sc-101504. Western blot analysis of RKIP expression in HeLa (A), HL-60 (B), Jurkat (C), JAR (D), MCF7 (E) and SHP-77 (F) whole cell lysates.



RKIP (8): sc-101504. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of glandular cells and bile duct cells.

SELECT PRODUCT CITATIONS

1. Zeng, G.Q., et al. 2011. Identification of the proteins related to p53-mediated radioresponse in nasopharyngeal carcinoma by proteomic analysis. *J. Proteomics* 74: 2723-2733.
2. Song, S.P., et al. 2012. Reduced expression of Raf kinase inhibitor protein correlates with poor prognosis in pancreatic cancer. *Clin. Transl. Oncol.* 14: 848-852.
3. Wang, L., et al. 2013. Phosphatidylethanolamine binding protein 1 in vascular endothelial cell autophagy and atherosclerosis. *J. Physiol.* 591: 5005-5015.
4. Yu, Q., et al. 2017. Downregulation of RIKP by miR-200a promotes the invasive ability of esophageal cancer cells by upregulating the expression of LIN28 and MMP-14. *Int. J. Clin. Exp. Pathol.* 10: 8452-8460.

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.