

RKIP (E-17): sc-5423

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 testes 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 ERK1 and ERK2, 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.
3. Tohdoh, N., et al. 1995. Sequence homology of rat and human HCNP precursor proteins, bovine phosphatidylethanol-amine-binding protein and rat 23-kDa protein associated with the opioid-binding protein. *Brain Res. Mol. Brain Res.* 30: 381-384.
4. Kolch, W., et al. 1996. Inhibition of Raf-1 signaling by a monoclonal antibody, which interferes with Raf-1 activation and with Mek substrate binding. *Oncogene* 13:1305-1314.
5. Morrison, D.K., et al. 1997. The complexity of Raf-1 regulation. *Curr. Opin. Cell Biol.* 9: 174-179.

CHROMOSOMAL LOCATION

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

SOURCE

RKIP (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RKIP of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5423 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

RKIP (E-17) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

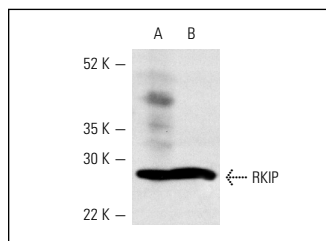
RKIP (E-17) is also recommended for detection of RKIP in additional species, including bovine and porcine.

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: rat liver extract: sc-2395 or rat brain extract: sc-2392.

DATA



RKIP (E-17): sc-5423. Western blot analysis of RKIP expression in rat liver (A) and rat brain (B) extracts.

SELECT PRODUCT CITATIONS

1. Chen, G., et al. 2003. Protein profiles associated with survival in lung adenocarcinoma. *Proc. Natl. Acad. Sci. USA* 100: 13537-13542.
2. Weinkauff, M., et al. 2009. 2-D PAGE-based comparison of proteasome inhibitor bortezomib in sensitive and resistant mantle cell lymphoma. *Electrophoresis* 30: 974-986.
3. Deiss, K., et al. 2012. Raf kinase inhibitor protein (RKIP) dimer formation controls its target switch from Raf1 to G protein-coupled receptor kinase (GRK) 2. *J. Biol. Chem.* 287: 23407-23417.

PROTOCOLS

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