SANTA CRUZ BIOTECHNOLOGY, INC.

RKIP (H-10): sc-376925

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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.

CHROMOSOMAL LOCATION

Genetic locus: PEBP1 (human) mapping to 12q24.23, XAB2 (human) mapping to 19p13.2; Pebp1 (mouse) mapping to 5 F, Xab2 (mouse) mapping to 8 A1.1.

SOURCE

RKIP (H-10) is a mouse monoclonal antibody raised against amino acids 1-187 representing full length RKIP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RKIP (H-10) is available conjugated to agarose (sc-376925 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376925 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376925 PE), fluorescein (sc-376925 FITC), Alexa Fluor® 488 (sc-376925 AF488), Alexa Fluor® 546 (sc-376925 AF546), Alexa Fluor® 594 (sc-376925 AF594) or Alexa Fluor® 647 (sc-376925 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376925 AF680) or Alexa Fluor® 790 (sc-376925 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

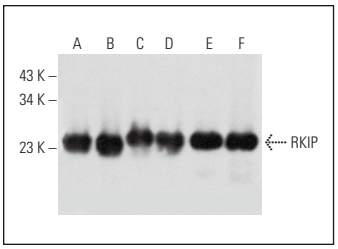
APPLICATIONS

RKIP (H-10) is recommended for detection of RKIP and processed active peptide HCNP 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), 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).

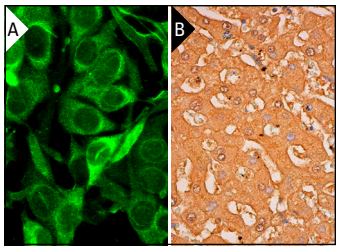
Molecular Weight of RKIP: 23 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or c4 whole cell lysate: sc-364186.

DATA



RKIP (H-10): sc-376925. Western blot analysis of RKIP expression in Jurkat (**A**), MCF7 (**B**), c4 (**C**), BC_3H1 (**D**), C6 (**E**) and H19-7/IGF-IR (**F**) whole cell lysates.



RKIP (H-10): sc-376925. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and membrane staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Ahn, S.Y., et al. 2017. Anti-helminthic niclosamide inhibits Ras-driven oncogenic transformation via activation of GSK-3. Oncotarget 8: 31856-31863.
2. Qi, Z.H., et al. 2018. RIPK4/PEBP1 axis promotes pancreatic cancer cell migration and invasion by activating RAF1/MEK/ERK signaling. Int. J. Oncol. 52: 1105-1116.
3. Su, Y., et al. 2021. Dihydroartemisinin induces ferroptosis in HCC by promoting the formation of PEBP1/15-LO. Oxid. Med. Cell. Longev. 2021: 3456725.
4. Wojdała, A.L., et al. 2022. Phosphatidylethanolamine binding protein 1 (PEBP1) in Alzheimer's disease: ELISA development and clinical validation. J. Alzheimers Dis. 88: 1459-1468.
5. Argueta, C.E., et al. 2023. RKIP localizes to the nucleus through a bipartite nuclear localization signal and interaction with importin α to regulate mitotic progression. J. Biol. Chem. 299: 103023.
6. Oh, M., et al. 2023. The lipoprotein-associated phospholipase A2 inhibitor Darapladib sensitises cancer cells to ferroptosis by remodelling lipid metabolism. Nat. Commun. 14: 5728.

RESEARCH USE

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