SANTA CRUZ BIOTECHNOLOGY, INC.

ZIP-kinase (17): sc-136398

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DAP (death associated protein) kinase and ZIP kinase are members of a novel protein kinase family, the members of which have the capacity to mediate apoptosis through their catalytic activities. DAP kinase contains a "death domain" and has been shown to mediate γ interferon-induced apoptosis. The introduction of DAP kinase into highly metastatic carcinoma clones lacking DAP kinase expression was shown to result in the suppression of metastasis, thus linking suppression of apoptosis to metastasis. ZIP kinase contains a leucine zipper domain, which is necessary for homodimerization and for interaction with other leucine zipper proteins. ZIP kinase dimerizes with ATF-4, an ATF/CREB transcription factor family member that contains a leucine zipper. Overexpression of ZIP kinase was shown to result in morphological changes associated with apoptosis in NIH/3T3 cells.

REFERENCES

1. Hai, T.W., Liu, F., Coukos, W.J. and Green, M.R. 1989. Transcription factor ATF cDNA clones: an extensive family of leucine zipper proteins able to selectively form DNA-binding heterodimers. Genes Dev. 3: 2083-2090.
2. Deiss, L.P., Feinstein, E., Berissi, H., Cohen, O. and Kimchi, A. 1995. Identification of a novel serine/threonine kinase and a novel 15 kDa protein as potential mediators of the γ interferon-induced cell death. Genes Dev. 9: 15-30.
3. Sakagami, H. and Kondo, H. 1997. Molecular cloning and developmental expression of a rat homologue of death-associated protein kinase in the nervous system. Brain Res. Mol. Brain Res. 52: 249-256.
4. Inbal, B., Cohen, O., Polak-Charcon, S., Kopolovic, J., Vadai, E., Eisenbach, L. and Kimchi, A. 1997. DAP kinase links the control of apoptosis to metastasis. Nature 390: 180-184.
5. Kawai, T., Matsumoto, M., Takeda, K., Sanjo, H. and Akira, S. 1998. ZIP kinase, a novel serine/threonine kinase which mediates apoptosis. Mol. Cell. Biol. 18: 1642-1651.

CHROMOSOMAL LOCATION

Genetic locus: DAPK3 (human) mapping to 19p13.3.

SOURCE

ZIP-kinase (17) is a mouse monoclonal antibody raised against amino acids 352-451 of ZIP-kinase of human origin.

PRODUCT

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

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

ZIP-kinase (17) is recommended for detection of ZIP-kinase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ZIP-kinase siRNA (h): sc-38983, ZIP-kinase shRNA Plasmid (h): sc-38983-SH and ZIP-kinase shRNA (h) Lentiviral Particles: sc-38983-V.

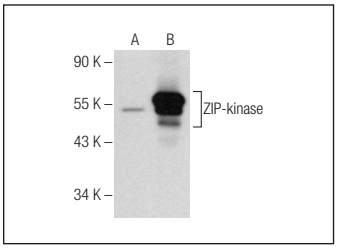
Molecular Weight of ZIP-kinase: 52 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or ZIP-kinase (h): 293T Lysate: sc-373091.

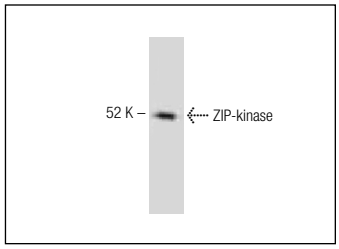
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



ZIP-kinase (17): sc-136398. Western blot analysis of ZIP-kinase expression in non-transfected: sc-117752 (**A**) and human ZIP-kinase transfected: sc-373091 (**B**) 293T whole cell lysates.



ZIP-kinase (17): sc-136398. Western blot analysis of ZIP-kinase expression in Hep G2 whole cell lysate.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.