

# ZIP-kinase (C-19): sc-8161

## 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  $\gamma$  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

- Hai, T.W., et al. 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.
- Deiss, L.P., et al. 1995. Identification of a novel serine/threonine kinase and a novel 15 kD protein as potential mediators of the  $\gamma$  interferon-induced cell death. *Genes Dev.* 9: 15-30.
- Sakagami, H., et al. 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.
- Inbal, B., et al. 1997. DAP kinase links the control of apoptosis to metastasis. *Nature* 390: 180-184.
- Kawai, T., et al. 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; Dapk3 (mouse) mapping to 10 C1.

## SOURCE

ZIP-kinase (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ZIP-kinase of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8161 P, (100  $\mu$ g 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

ZIP-kinase (C-19) is recommended for detection of ZIP-kinase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ZIP-kinase (C-19) is also recommended for detection of ZIP-kinase in additional species, including canine.

Suitable for use as control antibody for ZIP-kinase siRNA (h): sc-38983, ZIP-kinase siRNA (m): sc-38984, ZIP-kinase shRNA Plasmid (h): sc-38983-SH, ZIP-kinase shRNA Plasmid (m): sc-38984-SH, ZIP-kinase shRNA (h) Lentiviral Particles: sc-38983-V and ZIP-kinase shRNA (m) Lentiviral Particles: sc-38984-V.

Molecular Weight of ZIP-kinase: 52 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Kim, O.J., et al. 2008. D2 dopamine receptor expression and trafficking is regulated through direct interactions with ZIP. *J. Neurochem.* 106: 83-95.
- Wu, Y., et al. 2010. Link of Dlk/ZIP kinase to cell apoptosis and tumor suppression. *Biochem. Biophys. Res. Commun.* 392: 510-515.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.