

DAPK (N-19): sc-8164

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. Feinstein, E., et al. 1995. Assignment of DAP1 and DAPK-genes that positively mediate programmed cell death triggered by IFN- γ -to chromosome regions 5p12.2 and 9q34.1, respectively. *Genomics* 29: 305-307.
2. 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.
3. Inbal, B., et al. 1997. DAP kinase links the control of apoptosis to metastasis. *Nature* 390: 180-184.
4. Kawai, T., et al. 1998. ZIP kinase, a novel serine/threonine kinase which mediates apoptosis. *Mol. Cell. Biol.* 18: 1642-1651.
5. Schumacher, A.M., et al. 2002. DAPK catalytic activity in the hippocampus increases during the recovery phase in an animal model of brain hypoxic-ischemic injury. *Biochim. Biophys. Acta* 1600: 128-137.
6. Jin, Y., et al. 2002. A death-associated protein kinase (DAPK)-interacting protein, DIP-1, is an E3 ubiquitin ligase that promotes tumor necrosis factor-induced apoptosis and regulates the cellular levels of DAPK. *J. Biol. Chem.* 277: 46980-46986.
7. Kim, W.S., et al. 2003. Promoter methylation and down-regulation of DAPK is associated with gastric atrophy. *Int. J. Mol. Med.* 12: 827-830.
8. Jang, W.S., et al. 2003. Expression of a novel type I keratin, DAPK-1 in the dorsal aorta and pronephric duct of the zebrafish embryos. *Gene* 312: 145-150.
9. Narayan, G., et al. 2003. Frequent promoter methylation of CDH1, DAPK, RARB, and HIC1 genes in carcinoma of cervix uteri: its relationship to clinical outcome. *Mol. Cancer* 2: 24.

CHROMOSOMAL LOCATION

Genetic locus: DAPK1 (human) mapping to 9q21.33; Dapk1 (mouse) mapping to 13 B2.

SOURCE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-8164 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DAPK (N-19) is recommended for detection of DAP-kinase of mouse 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).

DAPK (N-19) is also recommended for detection of DAP-kinase in additional species, including equine, canine and bovine.

Suitable for use as control antibody for DAPK siRNA (h): sc-38976, DAPK siRNA (m): sc-38977, DAPK shRNA Plasmid (h): sc-38976-SH, DAPK shRNA Plasmid (m): sc-38977-SH, DAPK shRNA (h) Lentiviral Particles: sc-38976-V and DAPK shRNA (m) Lentiviral Particles: sc-38977-V.

Molecular Weight of DAPK: 160 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

1. Carvalho J.R., et al. 2010. Detailed analysis of expression and promoter methylation status of apoptosis-related genes in prostate cancer. *Apoptosis* 15: 956-965.

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.



Try **DAPK (17): sc-136286**, our highly recommended monoclonal alternative to DAPK (N-19).