

Apaf-1 (C-9): sc-376666

BACKGROUND

APIP (Apaf-1-interacting protein), also known as APIP2, is a member of the aldolase class II family and has a highly conserved C-terminal from *C. elegans* to humans. It is ubiquitously expressed, with high expression levels in heart, kidney and skeletal muscle. Alternative splicing produces two isoforms of APIP. Isoform 1 is the full length, 242 amino acid protein; isoform 2 is missing residues 1-38 and contains a distinct sequence for amino acids 39-53. APIP plays an important role in preventing muscle ischemic damage. It suppresses hypoxia-induced cell death by inducing the activation of Akt and ERK 1/2, which are responsible for inhibition of caspase-9 via phosphorylation, and competing with caspase-9 to bind the caspase recruitment domain (CARD) of Apaf-1. Through these mechanisms, APIP negatively regulates the activation of caspase-9 and Apaf-1-mediated cell death.

REFERENCES

1. Lai, C.H., et al. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. *Genome Res.* 10: 703-713.
2. Cao, G., et al. 2004. Cloning of a novel Apaf-1-interacting protein: a potent suppressor of apoptosis and ischemic neuronal cell death. *J. Neurosci.* 24: 6189-6201.
3. Cho, D.H., et al. 2004. Induced inhibition of ischemic/hypoxic injury by APIP, a novel Apaf-1-interacting protein. *J. Biol. Chem.* 279: 39942-39950.
4. Anichini, A., et al. 2006. Apaf-1 signaling in human melanoma. *Cancer Lett.* 238: 168-179.
5. Schafer, Z.T. and Kornbluth, S. 2006. The apoptosome: physiological, developmental and pathological modes of regulation. *Dev. Cell* 10: 549-561.
6. Cho, D.H., et al. 2007. Suppression of hypoxic cell death by APIP-induced sustained activation of Akt and ERK 1/2. *Oncogene* 26: 2809-2814.

CHROMOSOMAL LOCATION

Genetic locus: APIP (human) mapping to 11p13; Apip (mouse) mapping to 2 E2.

SOURCE

APIP (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 141-179 within an internal region of APIP of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376666 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

APIP (C-9) is recommended for detection of APIP 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

APIP (C-9) is also recommended for detection of APIP in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for APIP siRNA (h): sc-61976, APIP siRNA (m): sc-61977, APIP shRNA Plasmid (h): sc-61976-SH, APIP shRNA Plasmid (m): sc-61977-SH, APIP shRNA (h) Lentiviral Particles: sc-61976-V and APIP shRNA (m) Lentiviral Particles: sc-61977-V.

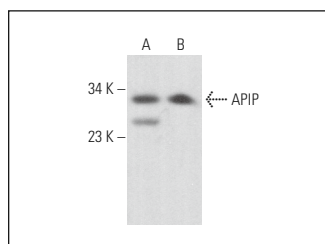
Molecular Weight of APIP: 27 kDa.

Positive Controls: APIP (h): 293 Lysate: sc-111191, BYDP whole cell lysate: sc-364368 or NIH/3T3 whole cell lysate: sc-2210.

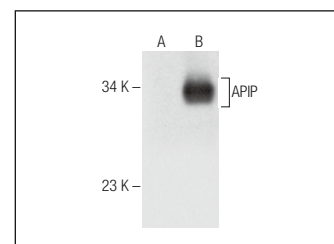
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



APIP (C-9): sc-376666. Western blot analysis of APIP expression in BYDP (A) and NIH/3T3 (B) whole cell lysates.



APIP (C-9): sc-376666. Western blot analysis of APIP expression in non-transfected: sc-110760 (A) and human APIP transfected: sc-111191 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tran, P.X., et al. 2022. Potential for reversing miR-634-mediated cytoprotective processes to improve efficacy of chemotherapy against oral squamous cell carcinoma. *Mol. Ther. Oncolytics* 24: 897-908.

RESEARCH USE

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