

APIP (D-20): sc-66318

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

- Lai, C.H., Chou, C.Y., Chang, L.Y., Liu, C.S. and Lin, W. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. *Genome Res.* 10: 703-713.
- Cao, G., Xiao, M., Sun, F., Xiao, X., Pei, W., Li, J., Graham, S.H., Simon, R.P. and Chen, J. 2004. Cloning of a novel Apaf-1-interacting protein: a potent suppressor of apoptosis and ischemic neuronal cell death. *J. Neurosci.* 24: 6189-6201.
- Cho, D.H., Hong, Y.M., Lee, H.J., Woo, H.N., Pyo, J.O., Mak, T.W. and Jung, Y.K. 2004. Induced inhibition of ischemic/hypoxic injury by APIP, a novel Apaf-1-interacting protein. *J. Biol. Chem.* 279: 39942-39950.
- Anichini, A., Mortarini, R., Sensi, M. and Zanon, M. 2006. Apaf-1 signaling in human melanoma. *Cancer Lett.* 238: 168-179.
- Schafer, Z.T. and Kornbluth, S. 2006. The apoptosome: physiological, developmental and pathological modes of regulation. *Dev. Cell* 10: 549-561.
- Cho, D.H., Lee, H.J., Kim, H.J., Hong, S.H., Pyo, J.O., Cho, C. and Jung, Y.K. 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 E3.

SOURCE

APIP (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of APIP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-66318 P, (100 µg 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.

APPLICATIONS

APIP (D-20) is recommended for detection of APAF1-interacting protein of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 (D-20) is also recommended for detection of APAF1-interacting protein in additional species, including equine, canine, bovine, porcine and avian.

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.

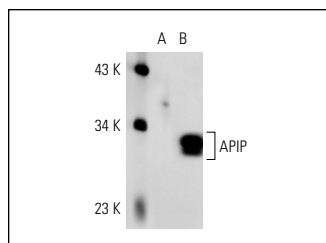
Molecular Weight of APIP: 27 kDa.

Positive Controls: APIP (h): 293 Lysate: sc-111191, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

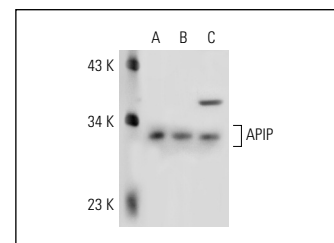
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



APIP (D-20): sc-66318. Western blot analysis of APIP expression in non-transfected: sc-110760 (A) and human APIP transfected: sc-111191 (B) 293 whole cell lysates.



APIP (D-20): sc-66318. Western blot analysis of APIP expression in Sol8 (A), NIH/3T3 (B) and HeLa (C) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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