

# APOP1 (T-17): sc-163811

## BACKGROUND

APOP1 (apoptogenic 1) is a 206 amino acid mitochondrial protein that belongs to the APOPT family and plays a role in apoptosis through regulation of mitochondrial-induced cell death in vascular smooth muscle cells. The gene encoding APOP1 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease. The SERPINA1 gene is located on chromosome 14 and when defective leads to the genetic disorder  $\alpha$ 1-antitrypsin deficiency. This disorder is characterized by severe lung complications and liver dysfunction. Notably, the immunoglobulin heavy chain locus is found on chromosome 14 and has been identified as a fusion with the chromosome 19 encoded protein BCL3 in the (14;19) translocations found in a variety of B cell malignancies. The rodent homologs have been designated 2810002N01Rik and Apopt1 in mouse and rat respectively.

## REFERENCES

1. Suzuki, Y., Yamashita, R., Shirota, M., Sakakibara, Y., Chiba, J., Mizushima-Sugano, J., Nakai, K. and Sugano, S. 2004. Sequence comparison of human and mouse genes reveals a homologous block structure in the promoter regions. *Genome Res.* 14: 1711-1718.
2. Avramopoulos, D., Fallin, M.D. and Bassett, S.S. 2005. Linkage to chromosome 14q in Alzheimer's disease (AD) patients without psychotic symptoms. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 132B: 9-13.
3. Yasuda, O., Fukuo, K., Sun, X., Nishitani, M., Yotsui, T., Higuchi, M., Suzuki, T., Rakugi, H., Smithies, O., Maeda, N. and Ogihara, T. 2006. Apop-1, a novel protein inducing cyclophilin D-dependent but Bax/Bak-related channel-independent apoptosis. *J. Biol. Chem.* 281: 23899-23907.
4. Sun, X., Yasuda, O., Takemura, Y., Kawamoto, H., Higuchi, M., Baba, Y., Katsuya, T., Fukuo, K., Ogihara, T. and Rakugi, H. 2008. Akt activation prevents Apop-1-induced death of cells. *Biochem. Biophys. Res. Commun.* 377: 1097-1101.
5. Larner, A.J. and Doran, M. 2009. Genotype-phenotype relationships of presenilin-1 mutations in Alzheimer's disease: an update. *J. Alzheimers Dis.* 17: 259-265.
6. Topic, A., Alempijevic, T., Milutinovic, A.S. and Kovacevic, N. 2009.  $\alpha$ -1-antitrypsin phenotypes in adult liver disease patients. *Ups. J. Med. Sci.* 114: 228-234.
7. Hendrickson, S.L., Lautenberger, J.A., Chinn, L.W., Malasky, M., Sezgin, E., Kingsley, L.A., Goedert, J.J., Kirk, G.D., Gomperts, E.D., Buchbinder, S.P., Troyer, J.L. and O'Brien, S.J. 2010. Genetic variants in nuclear-encoded mitochondrial genes influence AIDS progression. *PLoS ONE* 5: e12862.

## CHROMOSOMAL LOCATION

Genetic locus: APOP1 (human) mapping to 14q32.33; 2810002N01Rik (mouse) mapping to 12 F1.

## SOURCE

APOP1 (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of APOP1 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-163811 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

APOP1 (T-17) is recommended for detection of APOP1 of human origin and 2810002N01Rik of mouse 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).

APOP1 (T-17) is also recommended for detection of APOP1 in additional species, including equine and bovine.

Suitable for use as control antibody for APOP1 siRNA (h): sc-92334, 2810002N01Rik siRNA (m): sc-108828, APOP1 shRNA Plasmid (h): sc-92334-SH, 2810002N01Rik shRNA Plasmid (m): sc-108828-SH, APOP1 shRNA (h) Lentiviral Particles: sc-92334-V and 2810002N01Rik shRNA (m) Lentiviral Particles: sc-108828-V.

Molecular Weight of APOP1: 23 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.

## 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.

## PROTOCOLS

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