

# Fis1 (FL-152): sc-98900

## BACKGROUND

Fis1 localizes to the outer mitochondrial membrane and, along with Dynamin-related protein (DRP1), participates in mitochondrial fission. Fission and fusion mechanisms regulate mitochondrial morphology within the cell. Fission frequency is determined by the level of Fis1 molecules at the mitochondrial surface. Fis1 contains a C-terminal domain, which is required for mitochondrial localization, and an N-terminal domain, which is necessary for mitochondrial fission. Fragmentation of the mitochondrial network by Fis1 leads to cytochrome c release and apoptosis. The mitochondrial fission mechanisms may be involved in positively and negatively regulating apoptosis.

## REFERENCES

- James, D.I., et al. 2003. hFis1, a novel component of the mammalian mitochondrial fission machinery. *J. Biol. Chem.* 278: 36373-36379.
- Yoon, Y., et al. 2003. The mitochondrial protein hFis1 regulates mitochondrial fission in mammalian cells through an interaction with the dynamin-like protein DLP1. *Mol. Cell. Biol.* 23: 5409-5420.
- Arai, R., et al. 2004. Establishment of stable hFis1 knockdown cells with an siRNA expression vector. *J. Biochem.* 136: 421-425.
- Frieden, M., et al. 2004. Ca<sup>2+</sup> homeostasis during mitochondrial fragmentation and perinuclear clustering induced by hFis1. *J. Biol. Chem.* 279: 22704-22714.
- Stojanovski, D., et al. 2004. Levels of human Fis1 at the mitochondrial outer membrane regulate mitochondrial morphology. *J. Cell Sci.* 117: 1201-1210.
- Lee, Y.J., et al. 2004. Roles of the mammalian mitochondrial fission and fusion mediators Fis1, DRP1 and OPA1 in apoptosis. *Mol. Biol. Cell* 15: 5001-5011.
- Dohm, J.A., et al. 2004. Cytosolic domain of the human mitochondrial fission protein Fis1 adopts a TPR fold. *Proteins* 54: 153-156.

## CHROMOSOMAL LOCATION

Genetic locus: FIS1 (human) mapping to 7q22.1; Fis1 (mouse) mapping to 5 G2.

## SOURCE

Fis1 (FL-152) is a rabbit polyclonal antibody raised against amino acids 1-152 representing full length Fis1 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.

## 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

Fis1 (FL-152) is recommended for detection of Fis1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

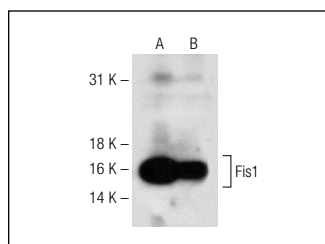
Fis1 (FL-152) is also recommended for detection of Fis1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Fis1 siRNA (h): sc-60643, Fis1 siRNA (m): sc-60644, Fis1 shRNA Plasmid (h): sc-60643-SH, Fis1 shRNA Plasmid (m): sc-60644-SH, Fis1 shRNA (h) Lentiviral Particles: sc-60643-V and Fis1 shRNA (m) Lentiviral Particles: sc-60644-V.

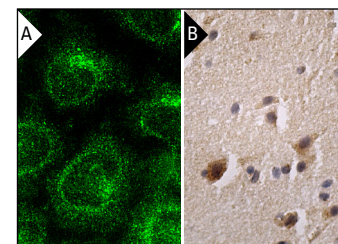
Molecular Weight of Fis1: 17 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

## DATA



Fis1 (FL-152): sc-98900. Western blot analysis of Fis1 expression in A-431 (A) and HeLa (B) whole cell lysates.



Fis1 (FL-152): sc-98900. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells (B).

## SELECT PRODUCT CITATIONS

- Koltai, E., et al. 2012. Age-associated declines in mitochondrial biogenesis and protein quality control factors are minimized by exercise training. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 303: R127-R134.
- Kumari, S., et al. 2012. Glutamate induces mitochondrial dynamic imbalance and autophagy activation: preventive effects of selenium. *PLoS ONE* 7: e39382.
- Hart, N., et al. 2014. Resveratrol attenuates exercise-induced adaptive responses in rats selectively bred for low running performance. *Dose Response* 12: 57-71.



Try **Fis1 (B-5): sc-376447** or **Fis1 (C-10): sc-376469**, our highly recommended monoclonal alternatives to Fis1 (FL-152).