

# CHPPR (C-15): sc-87042

## BACKGROUND

Fission and fusion mechanisms regulate mitochondrial morphology within the cell and occur during cell division and apoptosis. CHPPR (chondrocyte protein with a poly-proline region), also known as mitochondrial fission regulator 1, is a 333 amino acid mitochondrial protein that contains a short polyproline-rich region and, along with DRP1 and Fis1, is involved in mitochondrial fission. With high levels of expression in testis and embryonic cartilage, specifically hypertrophic chondrocytes, CHPPR is localized to the inner membrane of the mitochondria. In the testis of CHPPR-deficient mice, genes encoding enzymes that are involved in oxidative stress defense are downregulated, most likely resulting in reduced antioxidant activity. CHPPR is phosphorylated upon DNA damage, most likely by either ATM or ATR.

## REFERENCES

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2. Tonachini, L., et al. 2002. Chondrocyte protein with a poly-proline region is a novel protein expressed by chondrocytes *in vitro* and *in vivo*. *Biochim. Biophys. Acta* 1577: 421-429.
3. Tonachini, L., et al. 2004. Chondrocyte protein with a poly-proline region (CHPPR) is a novel mitochondrial protein and promotes mitochondrial fission. *J. Cell. Physiol.* 201: 470-482.
4. Monticone, M., et al. 2007. Impaired expression of genes coding for reactive oxygen species scavenging enzymes in testes of Mtrf1/Chppr-deficient mice. *Reproduction* 134: 483-492.
5. Cheng, W.C., et al. 2008. Fis1 deficiency selects for compensatory mutations responsible for cell death and growth control defects. *Cell Death Differ.* 15: 1838-1846.
6. Debray, F.G., et al. 2008. Disorders of mitochondrial function. *Curr. Opin. Pediatr.* 20: 471-482.
7. Zhang, X. and Hu, J. 2008. Two small protein families, DYNAMIN-RELATED PROTEIN3 and FISSION1, are required for peroxisome fission in *Arabidopsis*. *Plant J.* 57: 146-159.

## CHROMOSOMAL LOCATION

Genetic locus: MTRF1 (human) mapping to 8q13.1; Mtrf1 (mouse) mapping to 3 A2.

## SOURCE

CHPPR (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CHPPR 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-87042 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CHPPR (C-15) is recommended for detection of CHPPR 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).

CHPPR (C-15) is also recommended for detection of CHPPR in additional species, including equine and porcine.

Suitable for use as control antibody for CHPPR siRNA (h): sc-77508, CHPPR siRNA (m): sc-142333, CHPPR shRNA Plasmid (h): sc-77508-SH, CHPPR shRNA Plasmid (m): sc-142333-SH, CHPPR shRNA (h) Lentiviral Particles: sc-77508-V and CHPPR shRNA (m) Lentiviral Particles: sc-142333-V.

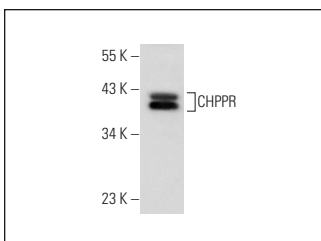
Molecular Weight of CHPPR: 36 kDa.

Positive Controls: 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



CHPPR (C-15): sc-87042. Western blot analysis of CHPPR expression in HeLa whole cell lysate.

## 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.