

# ISCA2 (C-15): sc-104944

## BACKGROUND

ISCA2 (mitochondrial iron-sulfur cluster assembly 2 homolog, HESB-like domain-containing protein 1) is a mitochondrial protein believed to be involved in the assembly of iron and sulfur containing proteins. Iron-sulfur (Fe-S) clusters are cofactors that are essential for a wide variety of processes, including facilitation of electron transfer processes in oxidative phosphorylation, catalysis of enzymatic reactions in aconitase and dehydratases and maintenance of structural integrity in the DNA repair enzyme endonuclease III. In bacteria and eukaryotes, several new genes are implicated in the biogenesis of Fe-S cluster-containing proteins. ISCA2 is found on chromosome 14 which contains about 700 genes and 106 million base pairs and makes up about 3.5% of human cellular DNA.

## REFERENCES

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2. Morimoto, K., et al. 2003. A HEAT-repeats containing protein, laiH, stabilizes the iron-sulfur cluster bound to the cyanobacterial IscA homologue, ISCA2. *J. Biochem.* 134: 211-217.
3. C6zar-Castellano, I., et al. 2004. hISCA: a protein implicated in the biogenesis of iron-sulfur clusters. *Biochim. Biophys. Acta* 1700: 179-188.
4. Berndt, C., et al. 2004. Characterization and reconstitution of a 4Fe-4S adenylyl sulfate/phosphoadenylyl sulfate reductase from *Bacillus subtilis*. *J. Biol. Chem.* 279: 7850-7855.
5. Jarrett, J.T. 2005. The novel structure and chemistry of iron-sulfur clusters in the adenosylmethionine-dependent radical enzyme biotin synthase. *Arch. Biochem. Biophys.* 433: 312-321.
6. Parikh, H., et al. 2008. Molecular correlates for maximal oxygen uptake and type 1 fibers. *Am. J. Physiol. Endocrinol. Metab.* 294: E1152-E1159.
7. Nilsson, R., et al. 2009. Discovery of genes essential for heme biosynthesis through large-scale gene expression analysis. *Cell Metab.* 10: 119-130.
8. Crooks, D.R., et al. 2010. Posttranslational stability of the heme biosynthetic enzyme ferrochelatase is dependent on iron availability and intact iron-sulfur cluster assembly machinery. *Blood* 115: 860-869.

## CHROMOSOMAL LOCATION

Genetic locus: ISCA2 (human) mapping to 14q24.3; *IscA2* (mouse) mapping to 12 D1.

## STORAGE

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

## PROTOCOLS

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

## SOURCE

ISCA2 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ISCA2 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-104944 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ISCA2 (C-15) is recommended for detection of ISCA2 of mouse, rat and human 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); non cross-reactive with family members ISCA1 or ISCA1L.

Suitable for use as control antibody for ISCA2 siRNA (h): sc-92109, ISCA2 siRNA (m): sc-146293, ISCA2 shRNA Plasmid (h): sc-92109-SH, ISCA2 shRNA Plasmid (m): sc-146293-SH, ISCA2 shRNA (h) Lentiviral Particles: sc-92109-V and ISCA2 shRNA (m) Lentiviral Particles: sc-146293-V.

Molecular Weight of ISCA2: 16 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.

## RESEARCH USE

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