

IRP-1 (H-64): sc-25535

BACKGROUND

Iron metabolism is essential for sustaining mammalian homeostasis. Iron uptake and distribution is a highly regulated process in mammalian cells that is monitored by two iron sensing proteins; iron regulatory protein-1 and -2 (IRP-1 and -2), also known as iron responsive element-binding protein-1 and -2 (IRE-BP-1 and -2) or aconitase 1 and 2. IRP-1 and IRP-2 are important soluble regulatory factors that mediate iron uptake and storage in mammalian cells. They are capable of either repressing translation or enhancing mRNA stability by associating with stem-loop motifs known as iron-responsive elements (IREs). IRPs respond to stress mediators, iron concentration and signaling factors, including nitrogen monoxide, cytokines and hydrogen peroxide.

REFERENCES

1. Rouault, T.A., et al. 1990. Cloning of the cDNA encoding an RNA regulatory protein—the human iron-responsive element-binding protein. *Proc. Natl. Acad. Sci. USA* 87: 7958-7962.
2. Hentze, M.W. and Argos, P. 1991. Homology between IRE-BP, a regulatory RNA-binding protein, aconitase, and isopropylmalate isomerase. *Nucleic Acids Res.* 19: 1739-1740.

CHROMOSOMAL LOCATION

Genetic locus: ACO1 (human) mapping to 9p21.1; Aco1 (mouse) mapping to 4 A5.

SOURCE

IRP-1 (H-64) is a rabbit polyclonal antibody raised against amino acids 826-889 of IRP-1 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.

APPLICATIONS

IRP-1 (H-64) is recommended for detection of IRP-1 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).

IRP-1 (H-64) is also recommended for detection of IRP-1 in additional species, including bovine, porcine and avian.

Suitable for use as control antibody for IRP-1 siRNA (h): sc-40713, IRP-1 siRNA (m): sc-40714, IRP-1 shRNA Plasmid (h): sc-40713-SH, IRP-1 shRNA Plasmid (m): sc-40714-SH, IRP-1 shRNA (h) Lentiviral Particles: sc-40713-V and IRP-1 shRNA (m) Lentiviral Particles: sc-40714-V.

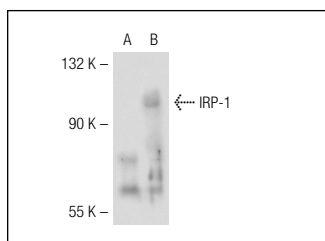
Molecular Weight of IRP-1: 98 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or IRP-1 (m): 293T Lysate: sc-125502.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IRP-1 (H-64): sc-25535. Western blot analysis of IRP-1 expression in non-transfected: sc-117752 (A) and mouse IRP-1 transfected: sc-125502 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Song, D., et al. 2008. A role for IOP1 in mammalian cytosolic iron-sulfur protein biogenesis. *J. Biol. Chem.* 283: 9231-9238.
2. Rathnasamy, G., et al. 2011. Iron and iron regulatory proteins in amoeboid microglial cells are linked to oligodendrocyte death in hypoxic neonatal rat periventricular white matter through production of proinflammatory cytokines and reactive oxygen/nitrogen species. *J. Neurosci.* 31: 17982-17995.

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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **IRP-1 (E-12): sc-166022**, our highly recommended monoclonal alternative to IRP-1 (H-64).