

IRP-1 (N-17): sc-14216

BACKGROUND

Iron metabolism is essential for sustaining mammalian homeostasis. Iron up-take and distribution is a highly regulated process in mammalian cells that is monitored by two iron sensing proteins iron regulatory protein-1 and -2, also known as IRP-1 and -2, iron responsive element-binding protein 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. IRP-1 and -2 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.

CHROMOSOMAL LOCATION

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

SOURCE

IRP-1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus 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.

Blocking peptide available for competition studies, sc-14216 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IRP-1 (N-17) 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 (N-17) is also recommended for detection of IRP-1 in additional species, including equine, canine, bovine and porcine.

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: 100 kDa.

Positive Controls: IRP-1 (h): 293 Lysate: sc-113248 or HeLa whole cell lysate: sc-2200.

RESEARCH USE

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

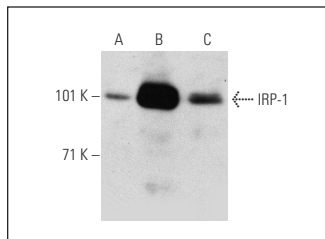
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

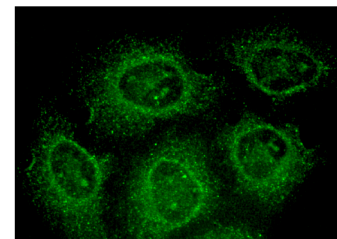
STORAGE

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

DATA



IRP-1 (N-17): sc-14216. Western blot analysis of IRP-1 expression in non-transfected 293: sc-110760 (A), human IRP-1 transfected 293: sc-113248 (B) and HeLa (C) whole cell lysates.



IRP-1 (N-17): sc-14216. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Santamaria, R., et al. 2006. Induction of H-ferritin synthesis by oxalomalate is regulated at both the transcriptional and post-transcriptional levels. *Biochim. Biophys. Acta* 1763: 815-822.
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- Calzolari, A., et al. 2009. Regulation of transferrin receptor 2 in human cancer cell lines. *Blood Cells Mol. Dis.* 42: 5-13.
- Fan, Y., et al. 2009. Ferritin expression in rat hepatocytes and kupffer cells after lead nitrate treatment. *Toxicol. Pathol.* 37: 209-217.
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- Moroishi, T., et al. 2011. The FBXL5-IRP2 axis is integral to control of iron metabolism *in vivo*. *Cell Metab.* 14: 339-351.
- Luo, Q.Q., et al. 2011. Effect of hypoxia on the expression of iron regulatory proteins 1 and the mechanisms involved. *IUBMB Life* 63: 120-128.
- Moroishi, T., et al. 2014. HERC2 targets the iron regulator FBXL5 for degradation and modulates iron metabolism. *J. Biol. Chem.* 289: 16430-16441.
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Try **IRP-1 (E-12): sc-166022**, our highly recommended monoclonal alternative to IRP-1 (N-17).