

# IRP-2 (14F7): sc-33681

## 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: IRP-1 and -2 (iron regulatory protein-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., et al. 1991. Homology between IRE-BP, a regulatory RNA-binding protein, aconitase, and isopropylmalate isomerase. *Nucleic Acids Res.* 19: 1739-1740.
3. Kaptain, S., et al. 1991. A regulated RNA binding protein also possesses aconitase activity. *Proc. Natl. Acad. Sci. USA* 88: 10109-10113.
4. Hirling, H., et al. 1992. Expression of active iron regulatory factor from a full-length human cDNA by *in vitro* transcription/translation. *Nucleic Acids Res.* 20: 33-39.
5. Rouault, T.A., et al. 1996. The impact of oxidative stress on eukaryotic iron metabolism. *EXS* 77: 183-197.
6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 100880. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. LocusLink Report (LocusID: 48). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: IREB2 (human) mapping to 15q25.1.

## SOURCE

IRP-2 (14F7) is a mouse monoclonal antibody raised against amino acids 138-200 of recombinant IRP-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain 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

IRP-2 (14F7) is recommended for detection of IRP-2 of 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IRP-2 siRNA (h): sc-40715, IRP-2 shRNA Plasmid (h): sc-40715-SH and IRP-2 shRNA (h) Lentiviral Particles: sc-40715-V.

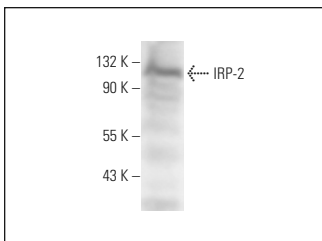
Molecular Weight of IRP-2: 105 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



IRP-2 (14F7): sc-33681. Western blot analysis of IRP-2 expression in Jurkat whole cell lysate.

## PROTOCOLS

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



See **IRP-2 (7H6): sc-33682** for IRP-2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.