SANTA CRUZ BIOTECHNOLOGY, INC.

IRP-2 (7H6): sc-33682

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

IRP-2 (7H6) is a mouse monoclonal antibody raised against full-length recombinant IRP-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IRP-2 (7H6) is available conjugated to agarose (sc-33682 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33682 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33682 PE), fluorescein (sc-33682 FITC), Alexa Fluor® 488 (sc-33682 AF488), Alexa Fluor® 546 (sc-33682 AF546), Alexa Fluor® 594 (sc-33682 AF594) or Alexa Fluor® 647 (sc-33682 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33682 AF680) or Alexa Fluor® 790 (sc-33682 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IRP-2 (7H6) is recommended for detection of IRP-2 of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

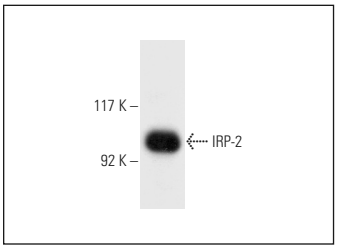
RESEARCH USE

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

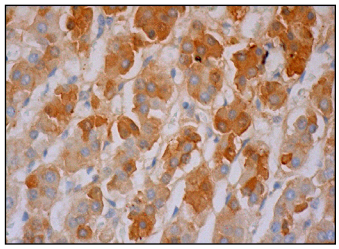
STORAGE

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

DATA



IRP-2 (7H6): sc-33682. Western blot analysis of IRP-2 expression in Jurkat whole cell lysate.



IRP-2 (7H6): sc-33682. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Sammarco, M.C., et al. 2008. Ferritin L and H subunits are differentially regulated on a post-transcriptional level. J. Biol. Chem. 283: 4578-4587.
2. DeMeo, D.L., et al. 2009. Integration of genomic and genetic approaches implicates IREB2 as a COPD susceptibility gene. Am. J. Hum. Genet. 85: 493-502.
3. Condò, I., et al. 2010. Molecular control of the cytosolic aconitase/IRP1 switch by extramitochondrial frataxin. Hum. Mol. Genet. 19: 1221-1229.
4. Chollangi, S., et al. 2012. Hemerythrin-like domain within F-box and leucine-rich repeat protein 5 (FBXL5) communicates cellular iron and oxygen availability by distinct mechanisms. J. Biol. Chem. 287: 23710-23717.
5. Huang, B.W., et al. 2014. Distinct regulatory mechanisms of the human ferritin gene by hypoxia and hypoxia mimetic cobalt chloride at the transcriptional and post-transcriptional levels. Cell. Signal. 26: 2702-2709.
6. Bauckman, K., et al. 2015. Iron alters cell survival in a mitochondria-dependent pathway in ovarian cancer cells. Biochem. J. 466: 401-413.
7. Okazaki, F., et al. 2016. Circadian clock in a mouse colon tumor regulates intracellular iron levels to promote tumor progression. J. Biol. Chem. 291: 7017-7028.
8. Kerins, M.J., et al. 2017. Fumarate mediates a chronic proliferative signal in fumarate hydratase-inactivated cancer cells by increasing transcription and translation of ferritin genes. Mol. Cell. Biol. 37: e00079-17.
9. Mishra, P., et al. 2018. ADHFE1 is a breast cancer oncogene and induces metabolic reprogramming. J. Clin. Invest. 128: 323-340.
10. Miyazawa, M., et al. 2018. Regulation of transferrin receptor-1 mRNA by the interplay between IRE-binding proteins and miR-7/miR-141 in the 3'-IRE stem-loops. RNA 24: 468-479.

PROTOCOLS

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