SANTA CRUZ BIOTECHNOLOGY, INC.

RNF40 (1C1): sc-293333

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). RNF40 (RING finger protein 40), also known as BRE1B, Staring or RBP95, is a 1,001 amino acid nuclear protein that contains one RING-type zinc finger. Expressed ubiquitously with highest expression in heart, testis and pancreas, RNF40 functions as an E3 ubiquitin-protein ligase that regulates the monoubiquitination and subsequent degradation of select residues on target proteins, such as Histone H2B and Syntaxin 1. In addition, RNF40 forms a ubiquitin ligase complex with UBCH6 (an E2 enzyme) and together, these proteins play a crucial role in regulation of the histone code. Four isoforms of RNF40 exist due to alternative splicing events.

REFERENCES

1. Wen, H. and Ao, S. 2000. RBP95, a novel leucine zipper protein, binds to the retinoblastoma protein. Biochem. Biophys. Res. Commun. 275: 141-148.
2. Li, D., et al. 2002. The role of adenovirus-mediated retinoblastoma 94 in the treatment of head and neck cancer. Cancer Res. 62: 4637-4644.
3. Chin, L.S., et al. 2002. Staring, a novel E3 ubiquitin-protein ligase that targets Syntaxin 1 for degradation. J. Biol. Chem. 277: 35071-35079.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607700. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Hwang, W.W., et al. 2003. A conserved RING finger protein required for Histone H2B monoubiquitination and cell size control. Mol. Cell 11: 261-266.
6. Wood, A., et al. 2003. BRE1, an E3 ubiquitin ligase required for recruitment and substrate selection of Rad6 at a promoter. Mol. Cell 11: 267-274.
7. Zhu, B., et al. 2005. Monoubiquitination of human Histone H2B: the factors involved and their roles in HOX gene regulation. Mol. Cell 20: 601-611.
8. Kim, J., et al. 2005. The human homolog of yeast BRE1 functions as a transcriptional coactivator through direct activator interactions. Mol. Cell 20: 759-770.

CHROMOSOMAL LOCATION

Genetic locus: RNF40 (human) mapping to 16p11.2.

SOURCE

RNF40 (1C1) is a mouse monoclonal antibody raised against amino acids 102-200 of RNF40 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

RNF40 (1C1) is recommended for detection of RNF40 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)], 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 RNF40 siRNA (h): sc-93054, RNF40 shRNA Plasmid (h): sc-93054-SH and RNF40 shRNA (h) Lentiviral Particles: sc-93054-V.

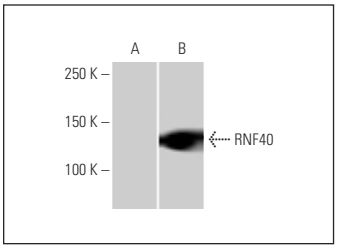
Molecular Weight of RNF40: 95 kDa.

Positive Controls: RNF40 transfected 293T whole cell lysate.

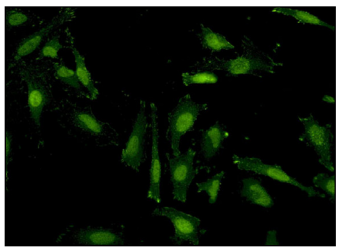
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



RNF40 (1C1): sc-293333. Western blot analysis of RNF40 expression in non-transfected (**A**) and RNF40 transfected (**B**) 293T whole cell lysates.



RNF40 (1C1): sc-293333. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

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 for detailed protocols and support products.