

RNF182 (C-13): sc-240835

BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. RNF182 (RING finger protein 182) is a 247 amino acid multi-pass membrane protein that contains one RING-type zinc finger. As an E3 ubiquitin-protein ligase, RNF182 interacts with ATP6L and mediates its ubiquitination and degradation in the ubiquitin-proteasome pathway. RNF182 may be upregulated in brains of patients with Alzheimer disease and neuronal cells deprived of glucose or oxygen. The gene encoding RNF182 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Porphyria cutanea tarda, Parkinson's disease and Stickler syndrome are all associated with genes that map to chromosome 6.

REFERENCES

1. Brunner, H.G., van Beersum, S.E., Warman, M.L., Olsen, B.R., Ropers, H.H. and Mariman, E.C. 1994. A Stickler syndrome gene is linked to chromosome 6 near the COL11A2 gene. *Hum. Mol. Genet.* 3: 1561-1564.
2. Cesari, R., Martin, E.S., Calin, G.A., Pentimalli, F., Bichi, R., McAdams, H., Trapasso, F., Drusco, A., Shimizu, M., Masciullo, V., D'Andrilli, G., Scambia, G., Picchio, M.C., Alder, H., Godwin, A.K. and Croce, C.M. 2003. Parkin, a gene implicated in autosomal recessive juvenile parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. *Proc. Natl. Acad. Sci. USA* 100: 5956-5961.
3. Sjöblom, T., Jones, S., Wood, L.D., Parsons, D.W., Lin, J., Barber, T.D., Mandelker, D., Leary, R.J., Ptak, J., Silliman, N., Szabo, S., Buckhaults, P., Farrell, C., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.
4. Bläker, H., Mechttersheimer, G., Sutter, C., Hertkorn, C., Kern, M.A., Rieker, R.J., Penzel, R., Schirmacher, P. and Kloor, M. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. *Genes Chromosomes Cancer* 47: 159-164.
5. Liu, Q.Y., Lei, J.X., Sikorska, M. and Liu, R. 2008. A novel brain-enriched E3 ubiquitin ligase RNF182 is up regulated in the brains of Alzheimer's patients and targets ATP6VOC for degradation. *Mol. Neurodegener.* 3: 4.
6. van Wijk, S.J., de Vries, S.J., Kemmeren, P., Huang, A., Boelens, R., Bonvin, A.M. and Timmers, H.T. 2009. A comprehensive framework of E2-RING E3 interactions of the human ubiquitin-proteasome system. *Mol. Syst. Biol.* 5: 295.
7. Jalil, S., Grady, J.J., Lee, C. and Anderson, K.E. 2010. Associations among behavior-related susceptibility factors in porphyria cutanea tarda. *Clin. Gastroenterol. Hepatol.* 8: 297-302.

CHROMOSOMAL LOCATION

Genetic locus: RNF182 (human) mapping to 6p23; Rnf182 (mouse) mapping to 13 A4.

SOURCE

RNF182 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of RNF182 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-240835 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RNF182 (C-13) is recommended for detection of RNF182 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other RNF family members.

Suitable for use as control antibody for RNF182 siRNA (h): sc-95222, RNF182 siRNA (m): sc-153029, RNF182 shRNA Plasmid (h): sc-95222-SH, RNF182 shRNA Plasmid (m): sc-153029-SH, RNF182 shRNA (h) Lentiviral Particles: sc-95222-V and RNF182 shRNA (m) Lentiviral Particles: sc-153029-V.

Molecular Weight of RNF182: 27 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.