SANTA CRUZ BIOTECHNOLOGY, INC.

ORP-1 (H-53): sc-135104

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the oxyserol-binding protein (OSBP) family function as intracellular lipid receptors. OSBPs are involved in lipid metabolism and signal transduction, as well as vesicle transport, and can translocate to the periphery of Golgi membranes when they are bound to oxysterols. ORPs (OSBP-related proteins) belong to a subfamily of OSBPs and consist of ORP-1 and ORP-2. The ORPs have a highly conserved OSBP-type sterol-binding region and a Pleckstrin homology domain. They strongly bind to phosphatidic acid and weakly bind to phosphatidylinositol 3-phosphate. Three isoforms of ORP-1 are produced due to alternative splicing. Isoform ORP-1A is expressed only in retina, brain, pineal gland, fetal brain and cultured retinal pigment epithelial cells, whereas ORP-1B is expressed ubiquitously.

REFERENCES

1. Laitinen, S., Olkkonen, V.M., Ehnholm, C. and Ikonen, E. 1999. Family of human oxysterol binding protein (OSBP) homologues. A novel member implicated in brain sterol metabolism. J. Lipid Res. 40: 2204-2211.
2. Xu, Y., Liu, Y., Ridgway, N.D. and McMaster, C.R. 2001. Novel members of the human oxysterol-binding protein family bind phospholipids and regulate vesicle transport. J. Biol. Chem. 276: 18407-18414.
3. Lehto, M., Laitinen, S., Chinetti, G., Johansson, M., Ehnholm, C., Staels, B., Ikonen, E. and Olkkonen, V.M. 2001. The OSBP-related protein family in humans. J. Lipid Res. 42: 1203-1213.
4. Jaworski, C.J., Moreira, E., Li, A., Lee, R. and Rodriguez, I.R. 2001. A family of 12 human genes containing oxysterol-binding domains. Genomics 78: 185-196.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606730. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Fairn, G.D. and McMaster, C.R. 2005. Identification and assessment of the role of a nominal phospholipid binding region of ORP.(oxysterol-binding-protein-related protein 1 short) in the regulation of vesicular transport. Biochem. J. 387: 889-896.
8. Perry, R.J. and Ridgway, N.D. 2006. Oxysterol-binding protein and vesicle-associated membrane protein-associated protein are required for sterol-dependent activation of the ceramide transport protein. Mol. Biol. Cell. 17: 2604-2616.
9. Olkkonen, V.M., Johansson, M., Suchanek, M., Yan, D., Hynynen, R., Ehnholm, C., Jauhiainen, M., Thiele, C. and Lehto, M. 2006. The OSBP-related proteins (ORPs): global sterol sensors for co-ordination of cellular lipid metabolism, membrane trafficking and signalling processes? Biochem. Soc. Trans. 34: 389-391.

CHROMOSOMAL LOCATION

Genetic locus: OSBPL1A (human) mapping to 18q11.2; Osbpl1a (mouse) mapping to 18 A1.

RESEARCH USE

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

SOURCE

ORP-1 (H-53) is a rabbit polyclonal antibody raised against amino acids 898-950 mapping at the C-terminus of ORP-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.

APPLICATIONS

ORP-1 (H-53) is recommended for detection of ORP-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); non cross-reactive with other ORP family members.

ORP-1 (H-53) is also recommended for detection of ORP-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ORP-1 siRNA (h): sc-62715, ORP-1 siRNA (m): sc-62716, ORP-1 shRNA Plasmid (h): sc-62715-SH, ORP-1 shRNA Plasmid (m): sc-62716-SH, ORP-1 shRNA (h) Lentiviral Particles: sc-62715-V and ORP-1 shRNA (m) Lentiviral Particles: sc-62716-V.

Molecular Weight of OSBPL1B/OSBPL1A/C: 108/50/106 kDa.

Molecular Weight observed of ORP-1: 89 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

PROTOCOLS

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