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OXR1 (h3): 293 Lysate: sc-158793

BACKGROUND

Oxidative stress-responsive 1 protein (OXR1), a protein of 527 amino acids, belongs to the STE20 subfamily. OXR1 is one of two human homologs of Fray, a serine/threonine kinase expressed in *Drosophila*. OXR1 binds to and phosphorylates p21-activated protein kinase (PAK1) and regulates downstream kinases in response to environmental stress. Endogenous OXR1 is activated only by osmotic stresses, notably sorbitol and to a lesser extent NaCl. OXR1 may also play a role in regulating the Actin cytoskeleton. The chloride channel proteins SLC12A1, SLC12A2 and SLC12A6 isoform 2 interact with OXR1, but SLC12A4 and SLC12A7 do not. The WNK1 and WNK4 protein kinases activate OXR1 by phosphorylating its T-loop. The OXR1 protein is widely expressed in mammalian tissues.

REFERENCES

1. Tamari, M., et al. 1999. Isolation and characterization of a novel serine/threonine kinase gene on chromosome 3p22-21.3. *J. Hum. Genet.* 44: 116-120.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604046. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Chen, W., et al. 2004. Characterization of OSR1, a member of the mammalian STE20p/germinal center kinase subfamily. *J. Biol. Chem.* 279: 11129-11136.
4. Hu, W., et al. 2004. The novel molecule porcine OSR1 upregulated expression on porcine endothelial cells by human peripheral blood mononuclear cell activation. *Transplant. Proc.* 36: 2475-2477.
5. Marshall, W.S., et al. 2005. Hypotonic shock mediation by p38 MAPK, JNK, PKC, FAK, OSR1 and SPAK in osmosensing chloride secreting cells of killifish opercular epithelium. *J. Exp. Biol.* 208: 1063-1077.
6. Vitari, A.C., et al. 2005. The WNK1 and WNK4 protein kinases that are mutated in Gordon's hypertension syndrome phosphorylate and activate SPAK and OSR1 protein kinases. *Biochem. J.* 391: 17-24.

CHROMOSOMAL LOCATION

Genetic locus: OXR1 (human) mapping to 3p22.2.

PRODUCT

OXR1 (h3): 293 Lysate represents a lysate of human OXR1 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

OXR1 (h3): 293 Lysate is suitable as a Western Blotting positive control for human reactive OXR1 antibodies. Recommended use: 10-20 µl per lane.

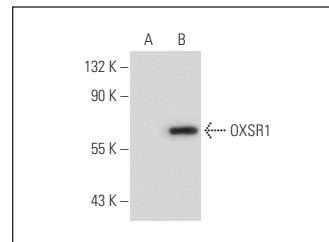
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

OXR1 (SQ-39): sc-100361 is recommended as a positive control antibody for Western Blot analysis of enhanced human OXR1 expression in OXR1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

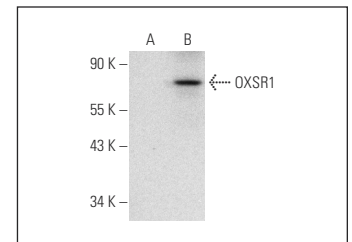
RECOMMENDED SUPPORT REAGENTS

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.

DATA



OXR1 (SQ-39): sc-100361. Western blot analysis of OXR1 expression in non-transfected: sc-110760 (A) and human OXR1 transfected: sc-158793 (B) 293 whole cell lysates.



OXR1 (A-4): sc-271707. Western blot analysis of OXR1 expression in non-transfected: sc-110760 (A) and human OXR1 transfected: sc-158793 (B) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.