

# OXR1 (E-18): sc-49471

## BACKGROUND

Oxidative stress-responsive 1 protein (OXR1), a protein of 527 amino acids, belongs to the STE20 subfamily. OXR1 is one of 2 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 cell 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.

## SOURCE

OXR1 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of OXR1 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-49471 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

OXR1 (E-18) is recommended for detection of OXR1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

OXR1 (E-18) is also recommended for detection of OXR1 in additional species, including equine and canine.

Suitable for use as control antibody for OXR1 siRNA (h): sc-61273, OXR1 shRNA Plasmid (h): sc-61273-SH and OXR1 shRNA (h) Lentiviral Particles: sc-61273-V.

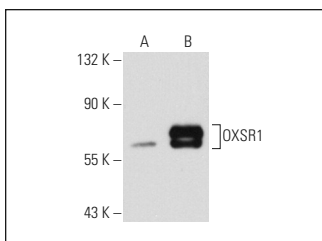
Molecular Weight of OXR1: 58 kDa.

Positive Controls: OXR1 (h): 293T Lysate: sc-171465, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

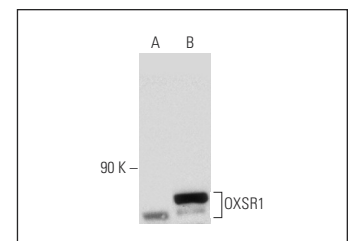
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



OXR1 (E-18): sc-49471. Western blot analysis of OXR1 expression in non-transfected: sc-117752 (A) and human OXR1 transfected: sc-171465 (B) 293T whole cell lysates.



OXR1 (E-18): sc-49471. Western blot analysis of OXR1 expression in non-transfected: sc-110760 (A) and human OXR1 transfected: sc-158793 (B) 293 whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.