SANTA CRUZ BIOTECHNOLOGY, INC.

OXSR1 (T-14): sc-49473

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The Power to Question

BACKGROUND

Oxidative stress-responsive 1 protein (OXSR1), a 58 kDa protein of 527 amino acids, belongs to the STE20 subfamily. OXSR1 is one of two human homologs of Fray, a serine/threonine kinase expressed in *Drosophila*. OXSR1 binds to and phosphorylates p21-activated protein kinase PAK1 and regulates downstream kinases in response to environmental stress. Endogenous OXSR1 is activated only by osmotic stresses, notably sorbitol and to a lesser extent NaCl. OXSR1 may also play a role in regulating the Actin cytoskeleton. The chloride channel proteins SLC12A1, SLC12A2 and SLC12A6 isoform 2 interact with OXSR1, but SLC12A4 and SLC12A7 do not. The WNK1 and WNK4 protein kinases activate OXSR1 by phosphorlating its T-loop. The OXSR1 protein is widely expressed in mammalian tissues.

REFERENCES

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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: OXSR1 (human) mapping to 3p22-p21.3; Oxsr1 (mouse) mapping to 9 F3.

SOURCE

OXSR1 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OXSR1 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-49473 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

OXSR1 (T-14) is recommended for detection of OXSR1 of human and, to a lesser extent, m and r 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).

Suitable for use as control antibody for OXSR1 siRNA (h): sc-61273, OXSR1 siRNA (m): sc-61274, OXSR1 shRNA Plasmid (h): sc-61273-SH, OXSR1 shRNA Plasmid (m): sc-61274-SH, OXSR1 shRNA (h) Lentiviral Particles: sc-61273-V and OXSR1 shRNA (m) Lentiviral Particles: sc-61274-V.

Molecular Weight of OXSR1: 58 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.

PROTOCOLS

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