

#3729 Store at -20°C

OSR1 Antibody

100 µl
 (10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

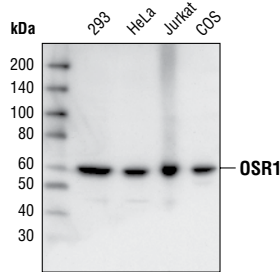
Entrez-Gene ID #9943
Swiss-Prot Acc. #O95747

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IF-IC, F Endogenous	H, Mk, B	60 kDa	Rabbit**

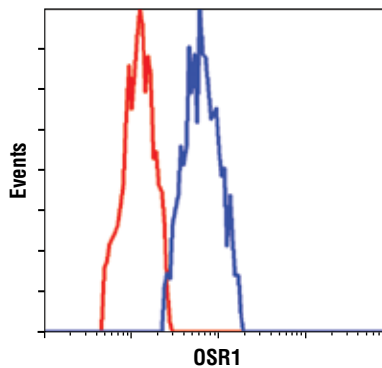
Background: SPAK (STE20/SPS1-related Pro/Ala-rich kinase) and OSR1 (oxidative stress responsive 1) are members of the GCK family serine/threonine kinases. Overexpression and *in vitro* studies demonstrate that SPAK is able to activate p38 MAP kinase indicating a possible role for SPAK in the stress response (1). Yeast two-hybrid screening revealed that SPAK and OSR1 bind to Na-K-2Cl cotransporters NKCC1 and NKCC2 and K-Cl cotransporter KCC3 (2). WNK1 and WNK4 phosphorylate SPAK at Thr243/247 and Ser380 (3-5). Similarly, WNK1 and WNK4 phosphorylate OSR1 at Thr185 and Ser315 (3, 4). Phosphorylation at these sites stimulates SPAK and OSR1 activity, leading to NKCC1 phosphorylation and enhanced NKCC1 activity (3-5). SPAK is also phosphorylated at Ser311 by PKCθ in response to T cell activation. Substitution of Ser311 with Ala or specific siRNA knock-down of SPAK dramatically reduces TCR/CD28-induced AP-1 activation, suggesting SPAK is involved in T cell signaling as well (6).

Specificity/Sensitivity: OSR1 Antibody detects endogenous levels of total OSR1 protein. This antibody does not cross-react with SPAK or other members of the GCK family.

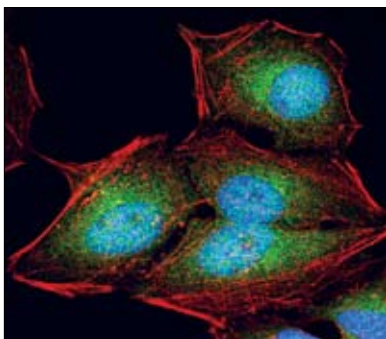
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues at the amino terminus of human OSR1. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from 293, HeLa, Jurkat and COS cells using OSR1 Antibody.



Flow cytometric analysis of HeLa cells using OSR1 Antibody (blue) compared to a nonspecific negative control antibody (red).



Confocal immunofluorescent analysis of HeLa cells using OSR1 Antibody (green). Actin filaments have been labeled with Alexa Fluor® 555 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunofluorescence (IF-IC)	1:25
Flow Cytometry	1:100

Background References:

- (1) Johnston, A.M. et al. (2000) *Oncogene* 19, 4290–4297.
- (2) Piechotta, K. et al. (2002) *J. Biol. Chem.* 277, 50812–50819.
- (3) Vitari, A.C. et al. (2005) *Biochem. J.* 391, 17–24.
- (4) Moriguchi, T. et al. (2005) *J. Biol. Chem.* 280, 42685–42693.
- (5) Gagnon, K.B. et al. (2006) *Mol. Cell. Biol.* 26, 689–698.
- (6) Li, Y. et al. (2004) *EMBO J.* 23, 1112–1122.

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IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.