

#3729 Store at -20°C

# OSR1 Antibody



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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H Mk	Endogenous	60	Rabbit	#O95747	9943

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	OSR1 Antibody detects endogenous levels of total OSR1 protein. This antibody does not cross-react with SPAK or other members of the GCK family.	
<b>Source / Purification</b>	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.	
<b>Background</b>	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 <i>in vitro</i> 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).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Johnston, A.M. et al. (2000) <i>Oncogene</i> 19, 4290-7.</li> <li>2. Piechotta, K. et al. (2002) <i>J Biol Chem</i> 277, 50812-9.</li> <li>3. Vitari, A.C. et al. (2005) <i>Biochem J</i> 391, 17-24.</li> <li>4. Moriguchi, T. et al. (2005) <i>J Biol Chem</i> 280, 42685-93.</li> <li>5. Gagnon, K.B. et al. (2006) <i>Mol Cell Biol</i> 26, 689-98.</li> <li>6. Li, Y. et al. (2004) <i>EMBO J</i> 23, 1112-22.</li> </ol>	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
<b>Applications Key</b>	<b>WB:</b> Western Blotting
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected
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