10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

OXSR1 Rabbit pAb

Catalog # AP99278

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	O95747
Other Accession	O95747
Predicted	Rat, Pig, Human, Mouse, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58022
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human OXSR1
Epitope Specificity	201-300/527
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. STE20 subfamily. Contains 1 protein kinase domain.
SUBUNIT	"Binds to and phosphorylates PAK1. Interacts with chloride channel proteins SLC12A6 isoform 2, SLC12A1 and SLC12A2 but not with SLC12A4 and SLC12A7, possibly establishing sensor/signaling modules that initiate the cellular response to environmental stress. Binds to and phosphorylates RELL1, RELL2 AND RELT.
Post-translational modifications	Phosphorylated upon DNA damage, probably by ATM or ATR.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The product of this gene belongs to the Ser/Thr protein kinase family of proteins. It regulates downstream kinases in response to environmental stress, and may play a role in regulating the actin cytoskeleton. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	9943
Other Names	OSR1; 2210022N24Rik; 2810422B09Rik; mKIAA1101; OXSR1_HUMAN; OXSR1; Oxidative stress-responsive 1 protein; 2.7.11.1; KIAA1101; OXSR1_MOUSE; oxidative stress responsive kinase 1; oxidative-stress responsive 1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	OXSR1 (HGNC:8508)
Function	Effector serine/threonine-protein kinase component of the WNK-SPAK/OSR1 kinase cascade, which is involved in various processes, such as ion transport, response to hypertonic stress and blood pressure (PubMed:16669787, PubMed:18270262, PubMed:21321328, PubMed:34289367). Specifically recognizes and binds proteins with a RFXV motif (PubMed:16669787, PubMed:17721439, PubMed:21321328). Acts downstream of WNK kinases (WNK1, WNK2, WNK3 or WNK4): following activation by WNK kinases, catalyzes phosphorylation of ion cotransporters, such as SLC12A1/NKCC2, SLC12A2/NKCC1, SLC12A3/NCC, SLC12A5/KCC2 or SLC12A6/KCC3, regulating their activity (PubMed:17721439). Mediates regulatory volume increase in response to hyperosmotic stress by catalyzing phosphorylation of ion cotransporters SLC12A1/NKCC2, SLC12A2/NKCC1 and SLC12A6/KCC3 downstream of WNK1 and WNK3 kinases (PubMed:16669787, PubMed:21321328). Phosphorylation of Na-K-Cl cotransporters SLC12A2/NKCC1 and SLC12A2/NKCC1 promote their activation and ion influx; simultaneously, phosphorylation of K-Cl cotransporters SLC12A5/KCC2 and SLC12A6/KCC3 inhibit their activity, blocking ion efflux (PubMed:16669787, PubMed:19665974, PubMed:21321328). Acts as a regulator of NaCl reabsorption in the distal nephron by mediating phosphorylation and activation of the thiazide-sensitive Na-Cl cotransporter SLC12A3/NCC in distal convoluted tubule cells of kidney downstream of WNK4 (PubMed:18270262). Also acts as a regulator of angiogenesis in endothelial cells downstream of WNK1 (PubMed:23386621, PubMed:25362046). Acts as an activator of inward rectifier potassium channels KCNJ2/Kir2.1 and KCNJ4/Kir2.3 downstream of WNK1: recognizes and binds the RXFXV/I variant motif on KCNJ2/Kir2.1 and KCNJ4/Kir2.3 and regulates their localization to the cell membrane without mediating their phosphorylation (PubMed:29581290). Phosphorylates RELL1, RELL2 and RELT (PubMed:16389068, PubMed:28688764). Phosphorylates PAK1 (PubMed:14707132). Phosphorylates PLSCR1 in the presence of RELT (PubMed:22052202).
Cellular Location	Cytoplasm
Tissue Location	Ubiquitously expressed in all tissue examined.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.