



Recombinant Protein Technical Manual
Recombinant Human OXSR1/OSR1 Protein (GST Tag)
RPES2865

Product Data:

Product SKU: RPES2865

Size: 50µg

Species: Human

Expression host: Baculovirus-Insect Cells

Uniprot: NP_005100.1

Protein Information:

Molecular Mass: 84 kDa

AP Molecular Mass: 80 kDa

Tag: N-GST

Bio-activity:

Purity: > 88 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.

Shipping: This product is provided as liquid. It is shipped at frozen temperature with blue ice/gel packs. Upon receipt, store it immediately at < -20°C.

Formulation: Supplied as sterile 50mM Tris, 100mM NaCl, pH 8.0, 0.5mM GSH, 0.5mM PMSF, 0.5mM EDTA, 10% glycerol

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: OSR1

Immunogen Information:

Sequence: Met 1-Ser 527

Background:

Oxidative stress-responsive 1 protein (OXSR1), also known as Serine/threonine-protein kinase OSR1, is a member of the Ser/Thr protein kinase family of proteins. OXSR1 regulates downstream kinases in response to environmental stress, and may play a role in regulating the actin cytoskeleton. OXSR1 is a 58 kDa protein of 527 amino acids that is widely expressed in mammalian tissues and cell lines. The amino acid (aa) sequence of the predicted OXSR1 protein is 39% identical to that of human SOK1. Of potential regulators surveyed, endogenous OXSR1 is activated only by osmotic stresses, notably sorbitol and to a lesser extent NaCl. OXSR1 did not increase the activity of coexpressed JNK, nor did it activate three other MAPKs, p38, ERK2, and ERK5. Phosphorylation by OXSR1 modulates the G protein sensitivity of PAK isoforms. The OXSR1 and SPAK are key enzymes in a signalling cascade regulating the activity of Na⁺/K⁺/2Cl⁻ co-transporters (NKCCs) in response to osmotic stress. Both kinases have a conserved carboxy-terminal (CCT) domain, which recognizes a unique peptide (Arg-Phe-Xaa-Val) motif. The OXSR1 and SPAK kinases specifically recognize their upstream activators and downstream substrates.