

Recombinant Human OXSR1/OSR1 Protein (GST Tag)

Catalog Number: PKSH030391

Note: Centrifuge before opening to ensure complete recovery of vial contents.

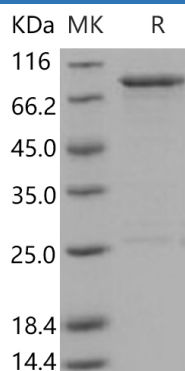
Description

| | |
|----------------------|---|
| Species | Human |
| Source | Baculovirus-Insect Cells-derived Human OXSR1/OSR1 protein Met 1-Ser 527, with an N-terminal GST |
| Calculated MW | 84.0 kDa |
| Observed MW | 80 kDa |
| Accession | NP_005100.1 |
| Bio-activity | Not validated for activity |

Properties

| | |
|----------------------|---|
| Purity | > 88 % as determined by reducing SDS-PAGE. |
| Concentration | Subject to label value. |
| Endotoxin | < 1.0 EU per µg of the protein 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 solution of 50mM Tris, 100mM NaCl, pH 8.0, 0.5mM GSH, 0.5mM PMSF, 0.5mM EDTA, 10% glycerol |

Data



> 88 % as determined by reducing SDS-PAGE.

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.

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Toll-free: 1-888-852-8623
Web: www.elabscience.com

Tel: 1-832-243-6086
Email: techsupport@elabscience.com

Fax: 1-832-243-6017