

## Active Recombinant Human ACVR1, GST-tagged

Cat. No. ACVR1-37H    Lot. No. (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Product Overview</b> | Recombinant human ALK2 (Q207D) (147-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>           | Sf9 Cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>ProteinLength</b>    | 147-end a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description</b>      | ALK 2 is a receptor serine/threonine kinase that is member of the ALK family and is upstream of signaling pathway involving the SMAD proteins especially SMAD1/5/8. Knockdown of ALK2, but not TGFbetaRI (ALK5), abrogates endoglin-mediated decrease in cell motility of prostate cancer cells and constitutively active ALK2 is sufficient to restore a low-motility phenotype in endoglin deficient cells. Therefore, endoglin decreases prostate cancer cell motility through activation of the ALK2-Smad1 pathway. ALK2 is the key gene involved in Fibrodysplasia ossificans progressiva (FOP), a rare autosomal dominant congenital disorder characterized by progressive heterotopic bone formation in muscle tissues. |
| <b>Form</b>             | 50mM Tris-HCl, pH 7.5, 150mM NaCl, 10mM glutathione, 0.1mM EDTA, 0.25mM DTT, 0.1mM PMSF, 25% glycerol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Bio-activity</b>     | 18 nmol/min/mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Molecular Mass</b>   | ~67 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| <b>Applications</b>     | Kinase Assay                                                                                                                                                                                                                                                                                                                      |
| <b>Storage</b>          | Store product at –70oC. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.                                                                                           |
| <b>Concentration</b>    | 0.1ug/ul                                                                                                                                                                                                                                                                                                                          |
| <b>GENE INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                   |
| <b>Gene Name</b>        | ACVR1 activin A receptor, type I [ Homo sapiens ]                                                                                                                                                                                                                                                                                 |
| <b>Official Symbol</b>  | ACVR1                                                                                                                                                                                                                                                                                                                             |
| <b>Synonyms</b>         | ACVR1; activin A receptor, type I; OTTHUMP00000204604; OTTHUMP00000204626; TGF-B superfamily receptor type I; activin A receptor, type II-like kinase 2; activin receptor type I; activin receptor type-1; activin receptor-like kinase 2; hydroxyalkyl-protein kinase; serine/threonine-protein kinase receptor R1; EC 2.7.11.30 |
| <b>Gene ID</b>          | 90                                                                                                                                                                                                                                                                                                                                |
| <b>mRNA Refseq</b>      | NM_001105                                                                                                                                                                                                                                                                                                                         |
| <b>Protein Refseq</b>   | NP_001096                                                                                                                                                                                                                                                                                                                         |
| <b>MIM</b>              | 102576                                                                                                                                                                                                                                                                                                                            |
| <b>UniProt ID</b>       | Q04771                                                                                                                                                                                                                                                                                                                            |
| <b>Chromosome</b>       | 2q23-q24                                                                                                                                                                                                                                                                                                                          |

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| <b>Location</b> |                                                                                                                                                                                                            |
| <b>Pathway</b>  | Cytokine-cytokine receptor interaction; TGF-beta signaling pathway                                                                                                                                         |
| <b>Function</b> | ATP binding; contributes_to activin receptor activity, type I; transmembrane receptor protein serine/threonine kinase activity; transforming growth factor beta binding; protein homodimerization activity |

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