# Recombinant ACVR1 protein (His tag)

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| **Catalog Number** | 544840 |
| **Synonyms** | Activin receptor type I; ACTR-I; Activin receptor-like kinase 2; ALK-2; Serine/threonine-protein kinase receptor R1; SKR1; TGF-B superfamily receptor type I; TSR-I |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q04771 |
| **Molecular Weight** | Predictes a molecular mass of 36.78 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 37 kDa band. |

## Product Information

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| **Sequence Region** | 203-509 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >87%, by SDS-PAGE with Coomassie Brilliant Blue staining. |
| **Endotoxin** | Not tested. |
| **Activity** | Not tested. |
| **Stability** | Samples are stable for up to twelve months from date of receipt at -70℃ |
| **Protein Construction** | DNA encoding 203-509 aa (Q04771) were fused with 6His tag. |

## Storage & Handling

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| **Reconstitution** | Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. |
| **Storage** | Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant Human Activin Receptor Type-1 (ACVR1) Fragment (residues 203-509) is a high-purity protein encompassing the complete protein kinase domain. This fragment serves as an essential tool for investigating BMP signaling pathways, kinase activity, and receptor function in developmental and disease research.<br>Activin receptor type-1 (ACVR1) is a bone morphogenetic protein (BMP) type I receptor that plays critical roles in bone, heart, cartilage, nervous system, and reproductive development. It forms heterotetrameric complexes with type II receptors (e.g., ACVR2A, ACVR2B) and, upon ligand binding (e.g., BMP7, GDF2/BMP9), transduces signals via SMAD1/5/8 phosphorylation. ACVR1 also modulates TGFβ/activin pathways and non-canonical MAPK signaling. As a single-pass type I membrane protein, it localizes to the cell membrane, where it regulates processes such as HAMP expression and BMP6 interactions, making it a key target for studying developmental biology and related pathologies. |