Recombinant MP2K1 protein (His tag)

Catalog Number	540168
Synonyms	MAP kinase kinase 1; MAPKK 1; MKK1; ERK activator kinase 1; MAPK/ERK kinase 1; MEK 1
Species	Human
Expression System	E. coli
Accession	Q02750
Molecular Weight	Predictes a molecular mass of 42.05 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 43 kDa band.

Product Information

Sequence Region	31-393
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 31-393 aa (Q02750) were fused with 6His tag.

Storage & Handling

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. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human MAP2K1/MEK1 Protein Fragment (aa 31-393) is a high-purity, functional fragment encompassing the complete protein kinase domain. This product is an essential tool for studying the MAPK/ERK signaling pathway, enabling researchers to investigate kinase activity, signal transduction mechanisms, and cellular regulation in a controlled in vitro setting. Dual specificity mitogen-activated protein kinase kinase 1 (MAP2K1/MEK1) is a crucial component of the MAP kinase signal transduction pathway in humans. It functions as a dual-specificity protein kinase that activates MAPK3/ERK1 and MAPK1/ERK2 through phosphorylation of their Thr-Glu-Tyr motifs, facilitating signal transduction in response to extracellular ligands such as growth factors, cytokines, and hormones. This pathway regulates diverse biological processes including cell growth, adhesion, survival, differentiation, transcription, metabolism, and cytoskeletal rearrangements. MAP2K1/MEK1 also participates in BRAF activation through KSR1/KSR2-dependent mechanisms and influences subcellular dynamics, including endosomal processing and Golgi apparatus fragmentation during mitosis. The protein localizes to multiple cellular compartments including the cytoplasm, nucleus, membrane (as a peripheral membrane protein), centrosomes during prometaphase, and the midbody during cytokinesis, reflecting its multifaceted role in cellular signaling and organization.