# Recombinant MK01 protein (His tag)

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| **Catalog Number** | 542242 |
| **Synonyms** | MAP kinase 1; MAPK 1; ERT1; Extracellular signal-regulated kinase 2; ERK-2; MAP kinase isoform p42; p42-MAPK; Mitogen-activated protein kinase 2; MAP kinase 2; MAPK 2 |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | P28482 |
| **Molecular Weight** | Predictes a molecular mass of 42.92 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 44 kDa band. |

## Product Information

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| **Sequence Region** | 2-360 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >86%, 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 2-360 aa (P28482) 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 MAPK1/ERK2 Protein Kinase Domain (residues 2-360) is a high-purity fragment encompassing the complete protein kinase domain of Mitogen-activated protein kinase 1. This fragment is an essential tool for investigating the MAPK/ERK signaling cascade, enabling researchers to study kinase activity, substrate interactions, and signal transduction mechanisms in vitro.<br>MAPK1 (ERK2) is a serine/threonine kinase that serves as a central component of the MAP kinase signal transduction pathway. It regulates diverse cellular processes including growth, differentiation, adhesion, and survival through phosphorylation of approximately 160 known substrates, including transcription factors, cytoskeletal elements, apoptosis regulators, and other signaling molecules. The full-length protein localizes to multiple cellular compartments including the cytoplasm, nucleus, cytoskeleton, spindle apparatus, centrosome, caveolae, and focal adhesions, reflecting its broad functional roles. Its activity is crucial for proper cell cycle progression, with demonstrated involvement in spindle assembly checkpoint regulation and Golgi apparatus fragmentation during mitosis. The protein also functions as a transcriptional repressor, binding to specific consensus sequences to suppress interferon gamma-induced gene expression independently of its kinase activity. |