

Recombinant p38α protein

Catalog No: 31157

Expressed In: *E. coli*

Quantity: 20 µg

Concentration: 1.19 µg/µl

Source: Human

Buffer Contents: 20 µg of Recombinant p38α protein in 25 mM Tris-HCl, 150 mM NaCl, 1 mM DTT, 50% glycerol, pH 8.5. Protein is supplied at 1.19 µg/µl.

Background: **p38 alpha** (Mitogen-Activated Protein Kinase P38 Alpha) is a serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK14 is one of the four p38 MAPKs which play an important role in the cascades of cellular responses evoked by extracellular stimuli such as proinflammatory cytokines or physical stress leading to direct activation of transcription factors. Accordingly, p38 MAPKs phosphorylate a broad range of proteins and it has been estimated that they may have approximately 200 to 300 substrates each. Some of the targets are downstream kinases which are activated through phosphorylation and further phosphorylate additional targets. RPS6KA5/MSK1 and RPS6KA4/MSK2 can directly phosphorylate and activate transcription factors such as CREB1, ATF1, the NF-kappa-B isoform RELA/NFKB3, STAT1 and STAT3, but can also phosphorylate histone H3 and the nucleosomal protein HMGN1.

Protein Details: Recombinant human p38α protein was expressed in *E. coli* as an N-His-fusion protein. The accession number is L35253. This protein was activated by phosphorylation of the purified p38 *in vitro* with MKK6. Purified by Ni-agarose chromatography to > 95% by SDS-PAGE.

Application Notes: Recombinant p38α is suitable for kinase assays. The molecular weight of the protein is ~42.69 kDa. The activity of the protein is ~ 110,700 units/mg with 1 unit defined as the amount of enzyme that will catalyze the transfer of 1 pmol phosphate to myelin basic protein per minute at 30°C.

Recommended Kinase Reaction Buffer: 20 mM Tris-HCL, 25 mM β-glycerophosphate, 5 mM EGTA, 1 mM sodium orthovanadate and 1 mM DTT, pH 7.5.

Kinase activity may vary depending on the substrate and reaction conditions used.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.