

Recombinant ERK2 protein

Catalog No: 31153

Lot No: 06315004

Expressed In: *E. coli*

Quantity: 5 µg

Concentration: 0.42 µg/µl

Source: Human

Buffer Contents: 5 µg of Recombinant ERK2 protein in 50 mM Tris-HCl, 150 mM NaCl, 1 mM DTT, 50% glycerol, pH 8.5.

Background: The extracellular signal-regulated kinases 1 and 2 (**ERK1 and ERK2**), also called p44 and p42 MAP kinases, are members of the Mitogen Activated Protein Kinase (MAPK) family of proteins found in all eukaryotes. Because the 44 kDa ERK1 and the 42 kDa ERK2 are highly homologous and both function in the same protein kinase cascade, the two proteins are often referred to collectively as ERK1/2 or p44/p42 MAP kinase. The ERK1/2 signaling cascade has been shown to be a critical regulator of cell differentiation, cell physiology and neuronal function. Aberrant control of ERK1/2 activity has been implicated in a variety of pathological conditions, including cancer and autoimmune diseases, and efficient study methods are in demand.

Protein Details: Recombinant human ERK2 protein was expressed in *E. coli* with an N-terminal His-Tag. The accession number is NM_002746. This highly active form was produced by phosphorylation of the purified protein *in vitro* with MEK1 and is suitable for labeling ERK2 substrates. This kinase is phosphorylated at Thr204. Purified by chromatography to > 95% by SDS-PAGE.

Application Notes: Recombinant ERK2 is suitable for kinase assays. The molecular weight of the protein is ~44.556 kDa. The activity of the protein is ~ 470,000 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.