

Recombinant MAPK3 (ERK1) protein

Catalog No: 81157, 81857

Lot No: 14218001

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.3 µg/µl

Source: Human

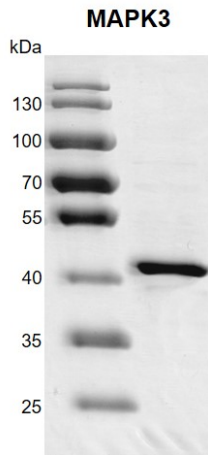
Buffer Contents: Recombinant MAPK3 / ERK1 protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, 0.5 mM TCEP.

Background: MAPK3 (Mitogen-Activated Protein Kinase 3), also known as ERK1, is a member of the MAP kinase family. MAPK1/ERK2 and MAPK3/ERK1 are the 2 MAPKs which play an important role in the MAPK/ERK cascade. They participate in a signaling cascade initiated by activated KIT and KITLG/SCF. Depending on the cellular context, the MAPK/ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangements. The MAPK/ERK cascade plays also a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. About 160 substrates have already been discovered for ERKs. Many of these substrates are localized in the nucleus, and seem to participate in the regulation of transcription upon stimulation. However, other substrates are found in the cytosol as well as in other cellular organelles, and those are responsible for processes such as translation, mitosis and apoptosis. Moreover, the MAPK/ERK cascade is also involved in the regulation of the endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC); as well as in the fragmentation of the Golgi apparatus during mitosis.

Protein Details: Recombinant MAPK3 (ERK1) protein was expressed in baculovirus expression system as the full length protein (accession number NP_002737.2) with an N-terminal FLAG-Tag. The molecular weight of the protein is 44.4 kDa.

Application Notes: Recombinant MAPK3 (ERK1) protein is suitable for use in enzyme kinetics, inhibitor screening, and selectivity profiling.

Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Upon receipt, unconjugated antibodies may be stored at -20°C for up to 2 years. Fluorophore- & enzyme-conjugated antibodies should be stored at 4°C. Fluorophore-conjugated antibodies should be protected from light. Keep reagents on ice when not in storage; to avoid repeated freeze/thaw cycles, we recommend aliquoting items that will be stored frozen into single-use fractions prior to freezing. Do not use sodium azide with HRP-conjugated antibodies as it will inactivate the horseradish peroxidase. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

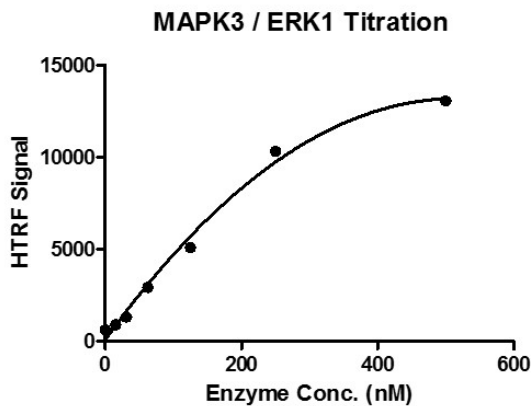


Recombinant MAPK3 (ERK1) protein gel

10% SDS-PAGE Coomassie staining

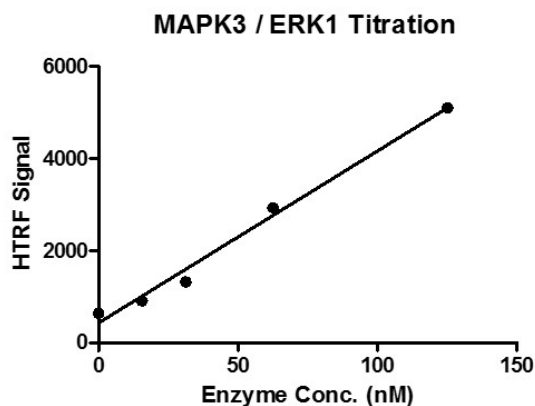
MW: 44.4 kDa

Purity: >95%



HTRF assay for MAPK3 (ERK1) protein activity

1 μ M STK S1 substrate was incubated with different concentrations MAPK3 (ERK1) protein in a 10 μ l reaction system containing 1 \times Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 5 nM SEB and 100 μ M ATP for 1 hr. The 10 μ l detection reagents containing STK antibody and SA-XL665 (each of which was 1:100 diluted with 1 \times Detection Buffer) were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature. HTRF KinEASE STK assay was used to detect the enzymatic activity.



HTRF assay for MAPK3 (ERK1) protein activity

1 μ M STK S1 substrate was incubated with different concentrations MAPK3 (ERK1) protein in a 10 μ l reaction system containing 1 \times Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 5 nM SEB and 100 μ M ATP for 1 hr. The 10 μ l detection reagents containing STK antibody and SA-XL665 (each of which was 1:100 diluted with 1 \times Detection Buffer) were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature. HTRF KinEASE STK assay was used to detect the enzymatic activity.