

ERK2 Protein, Mouse (sf9)

Cat. No.:	HY-P74168
Synonyms:	Mitogen-activated protein kinase 1; MAPK 1; ERT1; ERK-2; p42-MAPK
Species:	Mouse
Source:	Sf9 insect cells
Accession:	P63085 (M1-S358)
Gene ID:	26413
Molecular Weight:	Approximately 37 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

ERK2, a serine/threonine kinase and indispensable component of the MAP kinase signal transduction pathway, collaborates with MAPK1/ERK2 in orchestrating the intricate MAPK/ERK cascade. Activated by stimuli such as KIT and KITLG/SCF, this pathway assumes a central role in diverse cellular functions, including cell growth, adhesion, survival, and differentiation, achieved through the regulation of transcription, translation, and cytoskeletal rearrangements. ERK2 further contributes to the initiation and regulation of meiosis, mitosis, and postmitotic functions by phosphorylating numerous transcription factors. With approximately 160 substrates identified, ERK2 impacts cellular processes in the nucleus, cytosol, and various cellular organelles, influencing transcription, translation, mitosis, and apoptosis. Additionally, the MAPK/ERK cascade, facilitated by ERK2, is implicated in endosomal dynamics, lysosome processing, endosome cycling through the perinuclear recycling compartment (PNRC), and Golgi apparatus fragmentation during mitosis. Substrates of ERK2 span transcription factors, cytoskeletal elements, regulators of apoptosis, regulators of translation, and diverse signaling-related molecules, as well as protein kinases and phosphatases. Notably, ERK2 mediates phosphorylation events, such as those on TPR in response to EGF stimulation, and plays a role in the spindle assembly checkpoint. It phosphorylates PML, promoting its interaction with PIN1 and subsequent degradation, and phosphorylates CDK2AP2. Acting as a transcriptional repressor, ERK2 binds to specific consensus sequences and represses the expression of interferon gamma-induced genes,

demonstrating its multifaceted regulatory role beyond its kinase activity.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA