

## ERK2 Protein, Mouse (sf9, His-GST)

Cat. No.:	HY-P74167
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 60 kDa

### PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM Tris, 500 mM NaCl, pH 8.0, 10% Glycerol. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### 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](mailto:tech@MedChemExpress.com)

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