Datasheet for ABIN7318068

ERK2 Protein (GST tag)

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Overview

Quantity:	50 µg
Target:	ERK2 (MAPK1)
Origin:	Human
Source:	Baculovirus infected Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ERK2 protein is labelled with GST tag.

Product Details

Purpose:	Recombinant Human ERK2/MAPK1/MAPK2 Protein (GST Tag)
Sequence:	Met 1-Ser 360
Characteristics:	A DNA sequence encoding the human ERK2 (NP_002736.3) (Met 1-Ser 360) was fused with the GST tag at the N-terminus.
Purity:	> 98 % as determined by reducing SDS-PAGE.
Endotoxin Level:	< 1.0 EU per µg as determined by the LAL method.

Target Details

Target:	ERK2 (MAPK1)
Alternative Name:	ERK2/MAPK1/MAPK2 (MAPK1 Products)
Background:	Background: MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and

	development. ERK is a versatile protein kinase that regulates many cellular functions. Growing evidence suggests that extracellular signal-regulated protein kinase 1/2 (ERK1/2) plays a crucial role in promoting cell death in a variety of neuronal systems, including neurodegenerative diseases. It is believed that the magnitude and the duration of ERK1/2 activity determine its cellular function. Activation of ERK1/2 are implicated in the pathophysiology of spinal cord injury (SCI). ERK2 signaling is a novel target associated with the deleterious consequences of spinal injury. ERK-2, also known as Mitogen-activated protein kinase 1 (MAPK1), is a member of the protein kinase superfamily and MAP kinase subfamily. MKP-3 is a dual specificity phosphatase exclusively specific to MAPK1 for its substrate recognition and dephosphorylating activity. The activation of MAPK1 requires its phosphorylation by upstream kinases. Upon activation, MAPK1 translocates to the nucleus of the stimulated cells, where it phosphorylates nuclear targets. MAPK1 is involved in both the initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors such as ELK1. MAPK1 acts as a transcriptional repressor which represses the expression of interferon gamma-induced genes. Transcriptional activity is independent of kinase activity. The nuclear-cytoplasmic distribution of ERK2 is regulated in response to various stimuli and changes in cell context. Furthermore, the nuclear flux of ERK2 occurs by several energy- and carrier-dependent and -independent mechanisms. ERK2 has been shown to translocate into and out of the nucleus by facilitated diffusion through the nuclear pore, interacting directly with proteins within the nuclear pore complex, as well as by karyopherin-mediated transport. ERK2 interacts with the PDE4 catalytic unit by binding to a KIM (kinase interaction motif) docking site located on an exposed beta-hairpin loop and an FQF (Phe-Gln-Phe) specificity site located on an exposed alpha-helix. These flank a site that allows phosphorylation by ERK, the functional outcome of which is orchestrated by the N-terminal UCR1/2 (upstream conserved region 1 and 2) modules.Immune Checkpoint Immunotherapy Cancer Immunotherapy Targeted Therapy Synonym: ERK;ERK-2;ERK2;ERT1;MAPK2;p38;p40;p41;p41mapk;p42-MAPK;P42MAPK;PRKM1;PRKM2
Molecular Weight:	67 kDa
NCBI Accession:	NP_002736
Pathways:	MAPK Signaling, RTK Signaling, Apoptosis, Interferon-gamma Pathway, Fc-epsilon Receptor Signaling Pathway, Response to Growth Hormone Stimulus, Activation of Innate immune Response, Cellular Response to Molecule of Bacterial Origin, Hepatitis C, Protein targeting to Nucleus, Toll-Like Receptors Cascades, Monocarboxylic Acid Catabolic Process, Autophagy, G-protein mediated Events, Signaling Events mediated by VEGFR1 and VEGFR2, Signaling of

Target Details

Hepatocyte Growth Factor Receptor, VEGFR1 Specific Signals, BCR Signaling, S100 Proteins

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile 50 mM Tris, 100 mM NaCl, 0.5 mM PMSF, 10 % Glycerol, pH 8.0
Storage:	4 °C,-20 °C,-80 °C
Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.