Data Sheet (Cat.No.TMAY-00111)

TargetMol

Anti-ERK2 Antibody (9C922)

Product Details

Ig Type:	Mouse IgG1
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	9C922
Purification:	Protein A

Applications

Verified Activity:	1. Anti-ERK2 mouse monoclonal antibody at 1:500 dilution. -Lane A: A431 Whole Cell Lysate. -Lane B: HepG2 Whole Cell Lysate. -Lane C: A549 Whole Cell Lysate. -Lane D: Jurkat Whole Cell lysate. -Lysates/proteins at 30 µg per lane. -Secondary -Goat Anti-Mouse IgG H&L (Dylight800) at 1/15000 dilution. -Developed using the Odyssey technique. -Performed under reducing conditions. -Predicted band size:41 kDa. -Observed band size:41 kDa. 2. Anti-ERK2 mouse monoclonal antibody at 1:500 dilution. -Lane A: Hela Whole Cell Lysate. -Lane B: ERK2 konckout Hela Whole Cell lysate. -Lysates/proteins at 30 µg per lane. -Secondary -Goat Anti-Mouse IgG (H+L)/HRP at 1/10000 dilution. -Developed using the ECL technique. -Performed under reducing conditions. -Predicted band size:40 kDa. -Observed band size:40 kDa(Validation Experiment)
Application:	ELISA,WB
Recommended	WB: 1:500-1:2000; ELISA: 1:1000-1:2000

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	Recombinant Protein: Human ERK2 / MAPK1 / MAPK2 Protein (TMPY-04539)
Antigen Species:	Human
Synonyms:	Mitogen-activated protein kinase 1;Erk2;ERK-2;Mapk1;MAP kinase 1;MAPK 1;MAPK 2;Mapk; MAP kinase 2;Prkm1;ERT1;p42-MAPK
Biology Area:	Cancer Drug Targets

Research 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 is 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 some transcription factors such as ELK1. MAPK1 acts as a transcriptional repressor that 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 a 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.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

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