

**ERK5 protein**

<b>Catalog No :</b>	YD0032
<b>Reactivity :</b>	Human
<b>Applications :</b>	WB;SDS-PAGE
<b>Gene Name :</b>	MAPK7
<b>Protein Name :</b>	ERK5 protein
<b>Sequence :</b>	Amino acid: 346-477, with his-MBP tag.
<b>Human Gene Id :</b>	5598
<b>Human Swiss Prot No :</b>	Q13164
<b>Mouse Swiss Prot No :</b>	Q9WVS8
<b>Formulation :</b>	Liquid in PBS
<b>Source :</b>	E.coli
<b>Dilution :</b>	WB 1:500-2000
<b>Concentration :</b>	SDS-PAGE >90%
<b>Storage Stability :</b>	-20 °C/6 month,-80 °C for long storage
<b>Background :</b>	<p>catalytic activity:ATP + a protein = ADP + a phosphoprotein.,cofactor:Magnesium.,domain:The second proline-rich region may interact with actin targeting the kinase to a specific location in the cell.,domain:The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.,enzyme regulation:Activated by tyrosine and threonine phosphorylation (By similarity). Activated in response to hyperosmolarity, hydrogen peroxide, and epidermal growth factor (EGF).,function:Plays a role in various cellular processes such as proliferation, differentiation and cell survival. The upstream activator of MAPK7 is the MAPK kinase MAP2K5. Upon activation, it translocates to the nucleus and phosphorylates various downstream targets including MEF2C. EGF activates</p>

MAPK7 through a Ras-independent and MAP2K5-dependent pathway. May have a role in muscle cell differentiation. May be important for endothelial function and maintenance of blood vessel integrity. MAP2K5 and MAPK7 interact specifically with one another and not with MEK1/ERK1 or MEK2/ERK2 pathways. PTM: Dually phosphorylated on Thr-219 and Tyr-221, which activates the enzyme (By similarity). Autophosphorylated in vitro on threonine and tyrosine residues when the C-terminal part of the kinase, which could have a regulatory role, is absent. Similarity: Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MAP kinase subfamily. Similarity: Contains 1 protein kinase domain. Subcellular location: Translocates to the nucleus upon activation. Subunit: Interacts with MAP2K5. Forms oligomers (By similarity). Interacts with MEF2A, MEF2C and MEF2D; the interaction phosphorylates the MEF2s and enhances transcriptional activity of MEF2A, MEF2C but not MEF2D. Tissue specificity: Expressed in many adult tissues. Abundant in heart, placenta, lung, kidney and skeletal muscle. Not detectable in liver.

**Function :**

MAPKKK cascade, protein amino acid phosphorylation, phosphorus metabolic process, phosphate metabolic process, apoptosis, cell cycle, intracellular signaling cascade, protein kinase cascade, cell death, programmed cell death, death, phosphorylation, regulation of angiogenesis, protein amino acid autophosphorylation,

**Subcellular Location :**

Cytoplasm. Nucleus. Nucleus, PML body. Translocates to the nucleus upon activation.

**Expression :**

Expressed in many adult tissues. Abundant in heart, placenta, lung, kidney and skeletal muscle. Not detectable in liver.

## Products Images

