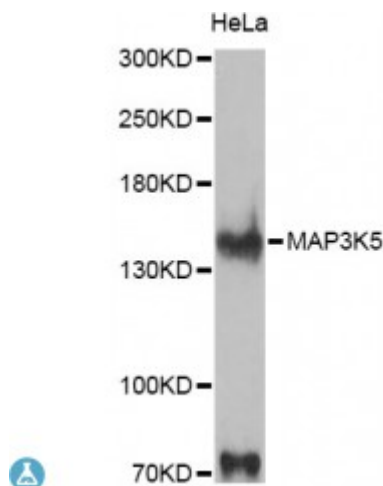


Anti-MAP3K5 Antibody



Description

Mitogen-activated protein kinase (MAPK) signaling cascades include MAPK or extracellular signal-regulated kinase (ERK), MAPK kinase (MKK or MEK), and MAPK kinase kinase (MAPKKK or MEKK). MAPKK kinase/MEKK phosphorylates and activates its downstream protein kinase, MAPK kinase/MEK, which in turn activates MAPK. The kinases of these signaling cascades are highly conserved, and homologs exist in yeast, Drosophila, and mammalian cells. MAPKKK5 contains 1,374 amino acids with all 11 kinase subdomains. Northern blot analysis shows that MAPKKK5 transcript is abundantly expressed in human heart and pancreas. The MAPKKK5 protein phosphorylates and activates MKK4 (aliases SERK1, MAPKK4) in vitro, and activates c-Jun N-terminal kinase (JNK)/stress-activated protein kinase (SAPK) during transient expression in COS and 293 cells; MAPKKK5 does not activate MAPK/ERK.

Model	STJ114332
Host	Rabbit
Reactivity	Human
Applications	WB
Immunogen	A synthetic peptide corresponding to a sequence within amino acids 1300 to the C-terminus of human MAP3K5 (NP_005914.1).
Gene ID	4217
Gene Symbol	MAP3K5
Dilution range	WB 1:500 - 1:2000
Tissue Specificity	Abundantly expressed in heart and pancreas

Purification	Affinity purification
Note	For Research Use Only (RUO).
Protein Name	Mitogen-activated protein kinase kinase kinase 5
Molecular Weight	154.537 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:68570 MIM:602448 Reactome:R-HSA-2559580
Alternative Names	Mitogen-activated protein kinase kinase kinase 5
Function	Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway, Plays an important role in the cascades of cellular responses evoked by changes in the environment, Mediates signaling for determination of cell fate such as differentiation and survival, Plays a crucial role in the apoptosis signal transduction pathway through mitochondria-dependent caspase activation, MAP3K5/ASK1 is required for the innate immune response, which is essential for host defense against a wide range of pathogens, Mediates signal transduction of various stressors like oxidative stress as well as by receptor-mediated inflammatory signals, such as the tumor necrosis factor (TNF) or lipopolysaccharide (LPS), Once activated, acts as an upstream activator of the MKK/JNK signal transduction cascade and the p38 MAPK signal transduction cascade through the phosphorylation and activation of several MAP kinase kinases like MAP2K4/SEK1, MAP2K3/MKK3, MAP2K6/MKK6 and MAP2K7/MKK7, These MAP2Ks in turn activate p38 MAPKs and c-jun N-terminal kinases (JNKs), Both p38 MAPK and JNKs control the transcription factors activator protein-1 (AP-1),
Cellular Localization	Cytoplasm, Endoplasmic reticulum,
Post-translational Modifications	Phosphorylated at Thr-838 through autophosphorylation and by MAP3K6/ASK2 which leads to activation, Thr-838 is dephosphorylated by PPP5C, Ser-83 and Ser-1033 are inactivating phosphorylation sites, the former of which is phosphorylated by AKT1 and AKT2, Phosphorylated at Ser-966 which induces association of MAP3K5/ASK1 with the 14-3-3 family proteins and suppresses MAP3K5/ASK1 activity, Calcineurin (CN) dephosphorylates this site, Also dephosphorylated and activated by PGAM5,