

## ASK1 Protein, Human (His)

<b>Cat. No.:</b>	HY-P701705
<b>Synonyms:</b>	MAP3K5; Mitogen-activated protein kinase kinase kinase 5; Apoptosis signal-regulating kinase 1; ASK-1; MAPK/ERK kinase kinase 5; MEK kinase 5; MEKK 5
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	Q99683 (M649-K946)
<b>Gene ID:</b>	4217
<b>Molecular Weight:</b>	Approximately 34.3 kDa

### PROPERTIES

<b>Appearance</b>	Solution
<b>Formulation</b>	Supplied as a 0.22 µm filtered solution of 50 mM HEPES, pH7.5, 200 mM NaCl, 20% glycerol, 1 mM DTT.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	Please use rapid thawing with running water to thaw the protein.
<b>Storage &amp; Stability</b>	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
<b>Shipping</b>	Shipping with dry ice

### DESCRIPTION

<b>Background</b>	<p>ASK1, a serine/threonine kinase, functions as a pivotal component in the MAP kinase signal transduction pathway, playing a crucial role in orchestrating cellular responses to environmental changes. This kinase is instrumental in determining cell fate, influencing processes such as differentiation and survival. Notably, ASK1 is a key player in the apoptosis signal transduction pathway, facilitating mitochondria-dependent caspase activation. Moreover, MAP3K5/ASK1 is indispensable for the innate immune response, contributing significantly to host defense against a diverse array of pathogens. It serves as a mediator of signal transduction in response to various stressors, including oxidative stress, and responds to receptor-mediated inflammatory signals, such as those initiated by tumor necrosis factor (TNF) or lipopolysaccharide (LPS). Upon activation, ASK1 acts as an upstream activator for both the MKK/JNK and p38 MAPK signal transduction cascades by phosphorylating and activating MAP kinase kinases such as MAP2K4/SEK1, MAP2K3/MKK3, MAP2K6/MKK6, and MAP2K7/MKK7. These activated MAP2Ks, in turn, initiate the activation of p38 MAPKs and c-jun N-terminal kinases (JNKs), both of which exert control over the transcription factors of the activator protein-1 (AP-1) family.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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