p38 delta/MAPK13 Protein, Human (sf9, GST)

Cat. No.:	HY-P73334
Synonyms:	Mitogen-activated protein kinase 13; MAPK 13; PRKM13; SAPK4
Species:	Human
Source:	Sf9 insect cells
Accession:	O15264 (M1-L365)
Gene ID:	5603
Molecular Weight:	Approximately 63.9 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as sterile 50 mM Tris-HCl, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EDTA, 0.1 mM PMSF, 25 % glycerol, pH 7.5
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A
Storage & Stability	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.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	p38 delta/MAPK13, a serine/threonine kinase and integral component of the MAP kinase signal transduction pathway, is among the four p38 MAPKs pivotal in orchestrating cellular responses triggered by extracellular stimuli like pro-inflammatory cytokines or physical stress, resulting in the direct activation of transcription factors such as ELK1 and ATF2. Operating within this cascade, p38 MAPKs phosphorylate an extensive array of proteins, estimated at approximately 200 to 300 substrates each, with MAPK13 representing one of the less studied isoforms. It targets downstream kinases like MAPKAPK2, activating them through phosphorylation to further impact additional substrates. MAPK13 plays a critical role in regulating protein translation by phosphorylating and inactivating EEF2K, contributing to cytoskeletal remodeling through the phosphorylation of MAPT and STMN1. Moreover, it mediates UV irradiation-induced up-regulation of the gene expression of CXCL14 and plays a vital role in the regulation of epidermal keratinocyte differentiation, apoptosis, and skin tumor development. In response to stress, MAPK13 phosphorylates the transcriptional activator MYB, leading to rapid MYB degradation via a proteasome-dependent pathway. Additionally, MAPK13 phosphorylates and down-regulates PRKD1 during the regulation of insulin secretion in pancreatic beta cells.

Caution: Product has not been fully validated for medical applications. For research use only.

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