P38β Protein, Human (Sf9)

Cat. No.:	HY-P701730
Synonyms:	MAPK11; Mitogen-activated protein kinase 11; MAP kinase 11; MAPK 11; Mitogen-activated protein kinase p38 beta; MAP kinase p38 beta; p38b; Stress-activated protein kinase 2b; SAPK2b; p38-2
Species:	Human
Source:	Sf9 insect cells
Accession:	Q15759 (S2-Q364)
Gene ID:	5600
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
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	P38β, a serine/threonine kinase and an essential component of the MAP kinase signal transduction pathway, operates within the intricate network of cellular responses triggered by extracellular stimuli such as pro-inflammatory cytokines or physical stress. As part of the p38 MAPK family, P38β plays a pivotal role in direct activation of transcription factors, phosphorylating an extensive array of proteins, with an estimated 200 to 300 substrates each. Its functions largely overlap with those of MAPK14, and some of its downstream kinase targets, such as RPS6KA5/MSK1 and RPS6KA4/MSK2, participate in the phosphorylation and activation of transcription factors, chromatin remodeling, and induction of immediate-early genes in response to stress or mitogenic stimuli. Other kinase targets, such as MAPKAPK2/MK2 and MAPKAPK3/MK3, influence gene expression at the post-transcriptional level. In the cytoplasm, P38β regulates protein turnover, exemplified by its phosphorylation of CFLAR, an inhibitor of TNF-induced apoptosis. Furthermore, P38β's involvement in ectodomain shedding of transmembrane proteins, such as ADAM17, highlights its role in cell proliferation and signaling activation. The kinase also phosphorylates NLRP1 downstream of MAP3K20/ZAK, promoting NLRP1 inflammasome activation and pyroptosis in response to UV-B irradiation and ribosome collisions. In the nucleus, P38β emerges as a critical modulator of gene expression by phosphorylating transcription factors and influencing chromatin modifiers and remodelers, thereby regulating processes involved in the inflammatory response.

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

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