p38 gamma/MAPK12 Protein, Human (sf9, His-GST)

Cat. No.:	HY-P76533
Synonyms:	Mitogen-activated protein kinase 12; Extracellular signal-regulated kinase 6; ERK-6; SAPK3
Species:	Human
Source:	Sf9 insect cells
Accession:	P53778 (M1-L367)
Gene ID:	6300
Molecular Weight:	Approximately 65 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 a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 8.0.
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 gamma/MAPK12, a serine/threonine kinase and crucial component of the MAP kinase signal transduction pathway, is among the four p38 MAPKs playing a pivotal role in cellular responses triggered by extracellular stimuli such as pro-inflammatory cytokines or physical stress. This pathway leads to the direct activation of transcription factors like ELK1 and ATF2, with p38 MAPKs phosphorylating a diverse array of proteins, estimated to have approximately 200 to 300 substrates each. Among its downstream kinases is MAPKAPK2, activated through phosphorylation to further phosphorylate additional targets. MAPK12 contributes to myoblast differentiation and down-regulation of cyclin D1 in response to hypoxia in adrenal cells, suggesting its role in inhibiting cell proliferation while promoting differentiation. Notably, MAPK12 phosphorylates DLG1, and following osmotic shock, it increases its association with nuclear DLG1, impacting mRNA processing and/or gene transcription to aid cell adaptation to osmolarity changes. Additionally, MAPK12 regulates UV-induced checkpoint signaling and repair of UV-induced DNA damage, influences glucose uptake in muscle cells, and is essential for the normal kinetochore localization of PLK1, preventing chromosomal instability and supporting mitotic cell viability. Its signaling positively regulates the expansion of transient amplifying myogenic precursor cells during muscle growth and regeneration.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA