ROCK1 Protein, Human (Sf9, His)

Cat. No.:	HY-P701770
Synonyms:	ROCK1; Rho-associated protein kinase 1; Renal carcinoma antigen NY-REN-35; Rho-associated; coiled-coil-containing protein kinase 1; Rho-associated; coiled-coil-containing protein kinase I; ROCK-I; p160 ROCK-1; p160ROCK
Species:	Human
Source:	Sf9 insect cells
Accession:	Q13464 (S6-R415)
Gene ID:	6093
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	ROCK1 protein stands as a pivotal kinase, wielding key regulatory influence over the actin cytoskeleton and cellular polarity. Demonstrating a broad spectrum of cellular functions, ROCK1 intricately governs smooth muscle contraction, actin cytoskeleton organization, stress fiber and focal adhesion formation, neurite retraction, cell adhesion, and motility through the phosphorylation of diverse substrates such as DAPK3, GFAP, LIMK1, LIMK2, MYL9/MLC2, TPPP, PFN1, and PPP1R12A. It collaborates with FHOD1 to induce SRC-dependent non-apoptotic plasma membrane blebbing and phosphorylates JIP3, regulating the recruitment of JNK to JIP3 during UVB-induced stress. As a suppressor of inflammatory cell migration, ROCK1 influences PTEN phosphorylation and stability, while concurrently acting as a negative regulator of VEGF-induced angiogenic endothelial cell activation. Crucially involved in centrosome positioning and mitotic exit, ROCK1 plays roles in terminal erythroid differentiation, inhibition of podocyte motility, promotion of keratinocyte terminal differentiation, and facilitation of osteoblast compaction during matrix assembly, contributing to osteoblast mineralization. Moreover, ROCK1 may impact eyelid and ventral body wall closure through the induction of actomyosin bundle assembly. The diverse roles of ROCK1 underscore its multifaceted impact on cellular physiology and highlight its regulatory significance in various cellular processes.

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

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