SGK Protein, Human (Sf9, His, GST)

Cat. No.:	HY-P701784
Synonyms:	SGK1; Serine/threonine-protein kinase Sgk1; Serum/glucocorticoid-regulated kinase 1
Species:	Human
Source:	Sf9 insect cells
Accession:	O00141 (S61-L431)
Gene ID:	6446
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	SGK Protein, a versatile serine/threonine-protein kinase, intricately governs an expansive spectrum of cellular processes, ranging from the regulation of ion channels, membrane transporters, and enzymatic activities to the orchestration of transcription factors, neuronal excitability, cell growth, proliferation, survival, migration, and apoptosis. Its pivotal involvement extends to crucial physiological functions, including renal Na(+) retention, renal K(+) elimination, salt appetite, gastric acid secretion, intestinal Na(+)/H(+) exchange, nutrient transport, insulin-dependent salt sensitivity of blood pressure, salt sensitivity of peripheral glucose uptake, cardiac repolarization, and memory consolidation. SGK efficiently up-regulates various ion channels and transporters, such as Na(+) channels (SCNN1A/ENAC, SCN5A, and ASIC1/ACCN2), K(+) channels (KCNJ1/ROMK1, KCNA1-5, KCNQ1-5, and KCNE1), and others, influencing diverse cellular processes. It exerts nuanced control over transcription factors, enzymes (GSK3A/B, PMM2, and Na(+)/K(+) ATPase), and pivotal pathways, making it a central player in cellular homeostasis and physiological responses to stress. SGK's regulatory finesse is exemplified in its ability to modulate SCNN1A/ENAC stability by phosphorylating NEDD4L, thereby preventing its degradation and promoting sodium transport. Its intricate involvement in diverse cellular functions underscores its significance in maintaining cellular equilibrium and responding to environmental cues.

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

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