APC Protein, Human

Cat. No.:	HY-P701852
Synonyms:	APC; Adenomatous polyposis coli protein; Protein APC; Deleted in polyposis 2.5
Species:	Human
Source:	E. coli
Accession:	P25054 (L407-S751)
Gene ID:	324
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	APC Protein serves as a tumor suppressor with multifaceted functions. It facilitates the rapid degradation of CTNNB1 and acts as a negative regulator in the Wnt signaling pathway. The activity of APC is intricately tied to its phosphorylation state. Additionally, it activates the GEF activity of SPATA13 and ARHGEF4, participating in hepatocyte growth factor (HGF)-induced cell migration and playing a role in MMP9 up-regulation through the JNK signaling pathway in colorectal tumor cells. Beyond its involvement in signaling pathways, APC associates with microtubules and actin filaments, components of the cytoskeleton, contributing to the organization of F-actin into ordered bundles. It functions downstream of Rho GTPases and DIAPH1, selectively stabilizing microtubules and mediating ERBB2-dependent stabilization of microtubules at the cell cortex. APC is required for the localization of MACF1 to the cell membrane, a critical factor in its function related to microtubule stabilization. It forms homooligomers and is found in complexes with various proteins, including ARHGEF4, CTNNB1, AXIN1, GSK3B, JPT1, APC2, DLG1, DLG3, alpha- and beta-catenins, MAPRE1, MAPRE2, MAPRE3, DIAPH1, DIAPH2, SCRIB, SPATA13, ASAP1, AMER1, AMER2, and KHDRBS1. APC's interaction with actin involves binding to both F-actin and actin filament bundles. This comprehensive network of interactions highlights the diverse roles of APC in cellular processes and its significance as a tumor suppressor.

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

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