RAB11B Protein, Human (HEK293, His)

Cat. No.:	HY-P74610
Synonyms:	Ras-related protein Rab-11B; GTP-binding protein YPT3; RAB11B; YPT3
Species:	Human
Source:	HEK293
Accession:	Q15907-1 (G2-C215)
Gene ID:	9230
Molecular Weight:	Approximately 25-30 kDa due to the glycosylation

PROPERTIES

AA Sequence	G T R D D E Y D Y L F K V V L I G D S G V G K S N L L S R F T R N E F N L E S K S T I G V E F A T R S I Q V D G K T I K A Q I W D T A G Q E R Y R A I T S A Y Y R G A V G A L L V Y D I A K H L T Y E N V E R W L K E L R D H A D S N I V I M L V G N K S D L R H L R A V P T D E A R A F A E K N N L S F I E T S A L D S T N V E E A F K N I L T E I Y R I V S Q K Q I A D R A A H D E S P G N N V V D I S V P P T T D G Q K P N K L Q C C
Biological Activity	Measured by its ability to catalyze the substrate GTP. The specific activity is 0.27 nmol/min/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The small GTPase RAB11B, a member of the Rab family, plays a pivotal role in intracellular membrane trafficking, orchestrating processes ranging from the formation of transport vesicles to their fusion with membranes. This GTPase undergoes a cycle between an inactive GDP-bound form and an active GTP-bound form, recruiting distinct downstream effectors that directly govern vesicle activities, such as formation, movement, tethering, and fusion. Specifically, RAB11B is

implicated in endocytic recycling, where it regulates the apical recycling of transmembrane proteins, including cystic fibrosis transmembrane conductance regulator (CFTR), epithelial sodium channel (ENaC), potassium voltage-gated channels, and voltage-dependent L-type calcium channels. Furthermore, it participates in the control of constitutive and regulated secretion, such as insulin granule exocytosis. RAB11B is essential for melanosome transport and release from melanocytes and is involved in regulating V-ATPase intracellular transport in response to extracellular acidosis. Additionally, it promotes Rabin8/RAB3IP preciliary vesicular trafficking to the mother centriole, forming a ciliary targeting complex that includes Rab11, ASAP1, Rabin8/RAB3IP, RAB11FIP3, and ARF4, thereby regulating the initiation of ciliogenesis. Conversely, under LPAR1 receptor signaling pathway activation, interaction with phosphorylated WDR44 inhibits Rab11-RAB3IP-RAB11FIP3 complex formation and suppresses cilia growth.

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