TMED9 Protein, Human (HEK293, His)

Cat. No.:	HY-P76678
Synonyms:	Transmembrane emp24 domain-containing protein 9; GMP25; p24alpha2; p25; GP25L2
Species:	Human
Source:	HEK293
Accession:	Q9BVK6/NP_059980.2 (L38-R202)
Gene ID:	54732
Molecular Weight:	Approximately 20.8 kDa

PROPERTIES

AA Sequence	L Y F H I G E T E K K C F I E E I P D E T M V I G N Y R T Q L Y D K Q R E E Y Q P A T P G L G M F V E V K D P E D K V I L A R Q Y G S E G R F T F T S H T P G E H Q I C L H S N S T K F S L F A G G M L R V H L D I Q V G E H A N D Y A E I A A K D K L S E L Q L R V R Q L V E Q V E Q I Q K E Q N Y Q R W R E E R F R Q T S E S T N Q R
Biological Activity	Measured in a cell proliferation assay using MCF-7 cells. The ED_{50} for this effect is 19.86 ng/mL. Corresponding to a specific activity is 5.035×10^4 Unit/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	TMED9, a protein intricately involved in vesicular protein trafficking, predominantly operates within the early secretory pathway, particularly in COPI vesicle-mediated retrograde transport, facilitating coatomer recruitment to membranes. It enhances the coatomer-dependent activity of ARFGAP2 and plays a pivotal role in the specific retention of p24 complexes in cis-Golgi membranes, contributing notably to the coupled localization of TMED2 and TMED10 in the cis-Golgi network.

Beyond its involvement in retrograde transport, TMED9 is implicated in the organization of intracellular membranes, including the ER-Golgi intermediate compartment and the Golgi apparatus. It further participates in the ER localization of PTPN2 isoform PTPB. TMED9 exhibits a dynamic oligomeric state, existing as a monomer and homodimer in the endoplasmic reticulum, with a predominantly monomeric state in the endoplasmic reticulum-Golgi intermediate compartment and cis-Golgi network. Oligomerization likely occurs with other members of the EMP24/GP25L family, such as TMED2, TMED7, and TMED10. Additionally, TMED9 engages in specific interactions with TMED5, COPG1, PTPN2, SPAST, and STX17, underscoring its multifaceted involvement in intracellular processes.

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