

CCDC47 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P77311
Synonyms:	PAT complex subunit CCDC47; Calumin; Adipocyte-specific protein 4; Asp4
Species:	Mouse
Source:	HEK293
Accession:	Q9D024 (K21-S135)
Gene ID:	67163
Molecular Weight:	Approximately 20-23 kDa due to the glycosylation

PROPERTIES

AA Sequence	<p>K F D D F E D E E D I V E Y D D N D F A E F E D V M E D S V T E S P Q R V I S T</p> <p>E D D E D E A T V E L E G Q D E S Q E G D F E D A D T Q E G D T E S E P Y D D E</p> <p>E F E G Y E D K P D T S S N K N K D P I T I V D V P A H L Q N S W E S</p>
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.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. 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	<p>CCDC47 protein is a crucial component of the multi-pass translocon (MPT) complex responsible for mediating the insertion of multi-pass membrane proteins into the lipid bilayer of membranes. Functioning in conjunction with the SEC61 complex, the MPT complex takes charge after the initial membrane insertion by the SEC61 complex, occluding the lateral gate of SEC61 to facilitate the insertion of subsequent transmembrane regions. Within the MPT complex, CCDC47, as part of the PAT subcomplex, plays a vital role in sequestering highly polar regions in transmembrane domains away from the non-polar membrane environment until they can be buried within the fully assembled protein. Notably, CCDC47 is implicated in the regulation of calcium ion homeostasis in the endoplasmic reticulum (ER) and is essential for proper protein degradation through the ER-associated degradation (ERAD) pathway. Furthermore, CCDC47 is indispensable for maintaining ER organization during embryogenesis. As a component of the PAT complex, which includes WDR83OS/Asterix, CCDC47</p>
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collaborates with other subcomplexes within the MPT complex, such as the GEL complex and the BOS complex, highlighting its integral role in the intricate processes of membrane protein insertion and ER homeostasis. Additionally, CCDC47 interacts with various proteins, including VCP, HSPA5, DERL1, DERL2, and SELENOS, contributing to its diverse functional repertoire.

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

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