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Anti-Tafazzin/TAZ Antibody

Catalog # ABO11443

Product Information

Application	WB
Primary Accession	Q16635
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Tafazzin(TAZ) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	6901
Other Names	Tafazzin, Protein G4.5, TAZ, EFE2, G4.5
Calculated MW	30203
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Isoform 1: Membrane; Single-pass membrane protein.
Tissue Specificity	High levels in cardiac and skeletal muscle. Up to 10 isoforms can be present in different amounts in different tissues. Most isoforms are ubiquitous. Isoforms that lack the N- terminus are found in leukocytes and fibroblasts, but not in heart and skeletal muscle. Some forms appear restricted to cardiac and skeletal muscle or to leukocytes.
Source	Eukaryota
Protein Name	Tafazzin
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human Tafazzin(162-178aa MDFILEKLNHGDWVHIF), identical to the related mouse and rat sequences.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the taffazin family.

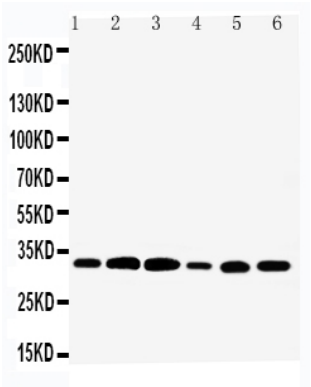
Protein Information

Name	TAFAZZIN (HGNC:11577)
Function	Acyltransferase required to remodel newly synthesized phospholipid cardiolipin (1',3'-bis-[1,2-diacyl-sn-glycero-3-phospho]- glycerol or CL), a key component of the mitochondrial inner membrane, with tissue specific acyl chains necessary for adequate mitochondrial function (PubMed:12930833, PubMed:19164547, PubMed:19700766, PubMed:26908608, PubMed:33096711). Its role in cellular physiology is to improve mitochondrial performance (PubMed:32234310). CL is critical for the coassembly of lipids and proteins in mitochondrial membranes, for instance, remodeling of the acyl groups of CL in the mitochondrial inner membrane affects the assembly and stability of respiratory chain complex IV and its supercomplex forms (By similarity). Catalyzes the transacylation between phospholipids and lysophospholipids, with the highest rate being between phosphatidylcholine (1,2-diacyl-sn-glycero- 3-phosphocholine or PC) and CL. Catalyzes both 1-acyl-sn-glycero-3- phosphocholine (lysophosphatidylcholine or LPC) reacylation and PC-CL transacylation, that means, it exchanges acyl groups between CL and PC by a combination of forward and reverse transacylations. Also catalyzes transacylations between other phospholipids such as phosphatidylethanolamine (1,2-diacyl-sn-glycero-3-phosphoethanolamine or PE) and CL, between PC and PE, and between PC and phosphatidate (1,2-diacyl-sn-glycero-3-phosphate or PA), although at lower rate. Not regiospecific, it transfers acyl groups into any of the sn-1 and sn-2 positions of the monolysocardiolipin (MLCL), which is an important prerequisite for uniformity and symmetry in CL acyl distribution. Cannot transacylate dilysocardiolipin (DLCL), thus, the role of MLCL is limited to that of an acyl acceptor. CoA-independent, it can reshuffle molecular species within a single phospholipid class. Redistributes fatty acids between MLCL, CL, and other lipids, which prolongs the half-life of CL. Its action is completely reversible, which allows for cyclic changes, such as fission and fusion or bending and flattening of the membrane. Hence, by contributing to the flexibility of the lipid composition, it plays an important role in the dynamics of mitochondria membranes. Essential for the final stage of spermatogenesis, spermatid individualization (By similarity). Required for the initiation of mitophagy (PubMed:33096711). Required to ensure progression of spermatocytes through meiosis (By similarity). Exon 7 of human tafazzin is essential for catalysis (PubMed:19700766).
Cellular Location	Mitochondrion outer membrane; Peripheral membrane protein; Intermembrane side. Mitochondrion inner membrane; Peripheral membrane protein; Intermembrane side [Isoform 2]: Cytoplasm. [Isoform 5]: Mitochondrion membrane [Isoform 7]: Mitochondrion membrane [Isoform 9]: Cytoplasm.
Tissue Location	High levels in cardiac and skeletal muscle. Up to 10 isoforms can be present in different amounts in different tissues Most isoforms are ubiquitous. Isoforms that lack the N-terminus are found in leukocytes and fibroblasts, but not in heart and skeletal muscle. Some forms appear restricted to cardiac and skeletal muscle or to leukocytes

Background

Tafazzin, also known as G4.5 is a protein that in humans is encoded by the TAZ gene. Cardiolipin is a complex glycerophospholipid with 4 acyl groups that localizes to the mitochondrial inner membrane and has a role in mitochondrial structure and function. By positional cloning, TAZ was identified within the critical Barth syndrome region on Xq28. Tafazzin is involved in the metabolism of cardiolipin. It is a component of the hippo signaling pathway thatcontrols tissue growth in animals. And it can function as aphospholipid lysophospholipid transacylase.

Images



Anti-Tafazzin/TAZ antibody, ABO11443, Western blottingLane 1: Rat Skeletal Muscle Tissue LysateLane 2: Rat Heart Tissue LysateLane 3: Rat Liver Tissue LysateLane 4: HELA Cell LysateLane 5: SMMC Cell LysateLane 6: SCG Cell Lysate

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