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Plakophilin 2 (aa125-139) Antibody (internal region)

Peptide-affinity purified goat antibody
Catalog # AF3510a

Specification

Plakophilin 2 (aa125-139) Antibody (internal region) - Product Information

Application	**WB, E**
Primary Accession	Q99959
Other Accession	NP_001005242.2, NP_004563.2, 5318, 67451 (mouse), 287925 (rat)
Reactivity	**Mouse, Rat**
Predicted	**Human, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**97415**

Plakophilin 2 (aa125-139) Antibody (internal region) - Additional Information

Gene ID 5318

Other Names
Plakophilin-2, PKP2

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Plakophilin 2 (aa125-139) Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

Plakophilin 2 (aa125-139) Antibody (internal region) - Protein Information

Name PKP2 (HGNC:9024)

Function
A component of desmosome cell-cell junctions which are required for positive regulation of cellular adhesion (PubMed:<a href="http://www.uniprot.org/citations/25208567"

target="_blank">25208567). Regulates focal adhesion turnover resulting in changes in focal adhesion size, cell adhesion and cell spreading, potentially via transcriptional modulation of beta-integrins (PubMed:23884246). Required to maintain gingival epithelial barrier function (PubMed:34368962). Important component of the desmosome that is also required for localization of desmosome component proteins such as DSC2, DSG2 and JUP to the desmosome cell-cell junction (PubMed:22781308, PubMed:25208567). Required for the formation of desmosome cell junctions in cardiomyocytes, thereby required for the correct formation of the heart, specifically trabeculation and formation of the atria walls (By similarity). Loss of desmosome cell junctions leads to mis-localization of DSP and DSG2 resulting in disruption of cell-cell adhesion and disordered intermediate filaments (By similarity). Modulates profibrotic gene expression in cardiomyocytes via regulation of DSP expression and subsequent activation of downstream TGFB1 and MAPK14/p38 MAPK signaling (By similarity). Required for cardiac sodium current propagation and electrical synchrony in cardiac myocytes, via ANK3 stabilization and modulation of SCN5A/Nav1.5 localization to cell-cell junctions (By similarity). Required for mitochondrial function, nuclear envelope integrity and positive regulation of SIRT3 transcription via maintaining DES localization at its nuclear envelope and cell tip anchoring points, and thereby preserving regulation of the transcriptional program (PubMed:35959657). Maintenance of nuclear envelope integrity protects against DNA damage and transcriptional dysregulation of genes, especially those involved in the electron transport chain, thereby preserving mitochondrial function and protecting against superoxide radical anion generation (PubMed:35959657). Binds single-stranded DNA (ssDNA) (PubMed:20613778). May regulate the localization of GJA1 to gap junctions in intercalated disks of the heart (PubMed:18662195). Involved in the inhibition of viral infection by influenza A viruses (IAV) (PubMed:28169297). Acts as a host restriction factor for IAV viral propagation, potentially via disrupting the interaction of IAV polymerase complex proteins (PubMed:28169297).

Cellular Location
Nucleus. Cell junction, desmosome. Cell junction. Cytoplasm Note=Colocalizes with CTNNA3 and SCN5A/Nav1.5 at intercalated disks in the heart. {ECO:0000250|UniProtKB:Q9CQ73}

Tissue Location
Expressed at intercalated disks in the heart (at protein level) (PubMed:18662195). Expressed in gingival epithelial, endothelial and fibroblast cells (at protein level) (PubMed:34368962) Faintly expressed in tracheal epithelial cells (at protein level) (PubMed:28169297). Widely expressed. Found at desmosomal plaques in simple and stratified epithelia and in non-epithelial tissues such as myocardium and lymph node follicles. In most stratified epithelia found in the desmosomes of the basal cell layer and seems to be absent from suprabasal strata.

Plakophilin 2 (aa125-139) Antibody (internal region) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

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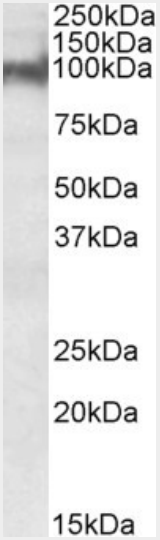
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Plakophilin 2 (aa125-139) Antibody (internal region) - Images



AF3510a (0.3 µg/ml) staining of Mouse Heart lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Plakophilin 2 (aa125-139) Antibody (internal region) - Background

This antibody is expected to recognize both reported isoforms (NP_001005242.2; NP_004563.2).

Plakophilin 2 (aa125-139) Antibody (internal region) - References

Missense variants in plakophilin-2 in arrhythmogenic right ventricular cardiomyopathy patients--disease-causing or innocent bystanders? Christensen AH, Benn M, Tybjaerg-Hansen A, Haunso S, Svendsen JH, Cardiology 2010 115 (2): 148-54. PMID: 19955750