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Plakophilin 2 Polyclonal Antibody

Catalog # AP71967

Product Information

Application	WB, E, IHC-P
Primary Accession	Q99959
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	97415

Additional Information

Gene ID	5318
Other Names	PKP2; Plakophilin-2
Dilution	WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/20000. Not yet tested in other applications. E~~N/A IHC-P~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

Name	PKP2 (HGNC:9024)
Function	A component of desmosome cell-cell junctions which are required for positive regulation of cellular adhesion (PubMed: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}

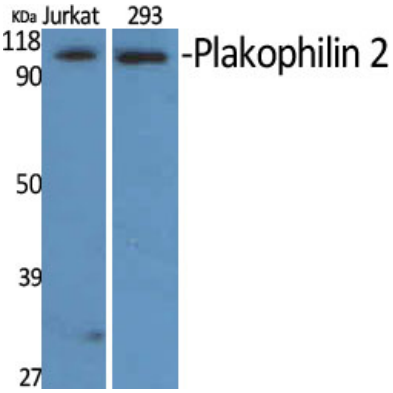
Tissue Location

Expressed at myocyte intercalated disks in the heart (at protein level) (PubMed:18662195, PubMed:31845994). 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

Background

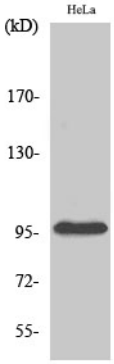
May play a role in junctional plaques.

Images



Western Blot analysis of various cells using Plakophilin 2 Polyclonal Antibody diluted at 1：500 cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003,Inventbiotech,MN,USA).

Western Blot analysis of HepG2 cells using Plakophilin 2 Polyclonal Antibody diluted at 1：500 cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003,Inventbiotech,MN,USA).



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