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Plakophilin 3 Rabbit pAb

Catalog # AP97357

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q9Y446
Other Accession	Q9Y446
Predicted	Rat, Pig, Human, Mouse, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	87082
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Plakophilin 3
Epitope Specificity	631-730/797
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the beta-catenin family. Contains 8 ARM repeats.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the arm-repeat (armadillo) and plakophilin gene families. Plakophilin proteins contain numerous armadillo repeats, localize to cell desmosomes and nuclei, and participate in linking cadherins to intermediate filaments in the cytoskeleton. This protein may act in cellular desmosome-dependent adhesion and signaling pathways. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Dec 2014]

Additional Information

Gene ID	11187
Other Names	2310056L12Rik; PKP3_HUMAN; PKP3; PKP3_MOUSE; plakophilin 3
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PKP3

Function	A component of desmosome cell-cell junctions which are required for positive regulation of cellular adhesion (PubMed:24124604). Required for the localization of DSG2, DSP and PKP2 to mature desmosome junctions (PubMed:20859650). May also play a role in the maintenance of DSG3 protein abundance in keratinocytes (By similarity). Required for the formation of DSP-containing desmosome precursors in the cytoplasm during desmosome assembly (PubMed:25208567). Also regulates the accumulation of CDH1 to mature desmosome junctions, via cAMP-dependent signaling and its interaction with activated RAP1A (PubMed:25208567). Positively regulates the stabilization of PKP2 mRNA and therefore protein abundance, via its interaction with FXR1, may also regulate the protein abundance of DSP via the same mechanism (PubMed:25225333). May also regulate the protein abundance of the desmosome component PKP1 (By similarity). Required for the organization of desmosome junctions at intercellular borders between basal keratinocytes of the epidermis, as a result plays a role in maintenance of the dermal barrier and regulation of the dermal inflammatory response (By similarity). Required during epidermal keratinocyte differentiation for cell adherence at tricellular cell- cell contacts, via regulation of the timely formation of adherens junctions and desmosomes in a calcium-dependent manner, and may also play a role in the organization of the intracellular actin fiber belt (By similarity). Acts as a negative regulator of the inflammatory response in hematopoietic cells of the skin and intestine, via modulation of proinflammatory cytokine production (By similarity). Important for epithelial barrier maintenance in the intestine to reduce intestinal permeability, thereby plays a role in protection from intestinal-derived endotoxemia (By similarity). Required for the development of hair follicles, via a role in the regulation of inner root sheaf length, correct alignment and anterior-posterior polarity of hair follicles (By similarity). Promotes proliferation and cell-cycle G1/S phase transition of keratinocytes (By similarity). Promotes E2F1- driven transcription of G1/S phase promoting genes by acting to release E2F1 from its inhibitory interaction with RB1, via sequestering RB1 and CDKN1A to the cytoplasm and thereby increasing CDK4- and CDK6-driven phosphorylation of RB1 (By similarity). May act as a scaffold protein to facilitate MAPK phosphorylation of RPS6KA protein family members and subsequently promote downstream EGFR signaling (By similarity). May play a role in the positive regulation of transcription of Wnt-mediated TCF-responsive target genes (PubMed:34058472).
Cellular Location	Nucleus. Cell junction, desmosome. Cytoplasm. Cell membrane; Peripheral membrane protein. Cell junction, adherens junction {ECO:0000250|UniProtKB:Q9QY23}. Note=Translocates to the nucleus following canonical WNT signaling activation by WNT3A (PubMed:34058472). Maintains a cytoplasmic pool which can then be translocated to the desmosome, the cytoplasmic pool is maintained through PKP3 interaction with SFN (PubMed:24124604). Aberrant increases in translocation to the desmosome result in cell junction instability and therefore decreased cell adhesion (PubMed:24124604). Partially colocalizes at cell junctions in a zipper-like pattern with DSP, CDH1, CTNNB1 and CTNND1 in the early stages of keratinocyte differentiation (By similarity). Moves to cell junctions at tricellular contacts as differentiation progresses and as epithelial sheet formation completes (By similarity). {ECO:0000250|UniProtKB:Q9QY23, ECO:0000269|PubMed:24124604, ECO:0000269|PubMed:34058472} [Isoform PKP3b]: Cell junction, desmosome. Cytoplasm
Tissue Location	Expressed in the epidermis of the skin, in squamous non-cornifying epithelial cells in the vagina, single layer epithelia of the duodenum and pancreas acini and non-epithelial dendritic reticulum cells of lymph node follicles (at protein level) [Isoform PKP3b]: Expressed in the oral cavity mucosa and epithelial cells of the crypts and villi in the small intestine (at protein level) (PubMed:24178805). Expressed in the epidermis with more abundant

expression found in the basal and low spinous cells (at protein level) (PubMed:24178805)

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