

PKP2 Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP12940b**Specification**

PKP2 Antibody (C-term) Blocking peptide - Product InformationPrimary Accession [Q99959](#)**PKP2 Antibody (C-term) Blocking peptide - Additional Information**

Gene ID 5318

Other Names

Plakophilin-2, PKP2

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PKP2 Antibody (C-term) Blocking peptide - Protein InformationName PKP2 ([HGNC:9024](#))**Function**

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). 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 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 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). May play a role in junctional plaques (PubMed:22781308). 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

Detected in heart right ventricle (at protein level). 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

PKP2 Antibody (C-term) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

PKP2 Antibody (C-term) Blocking peptide - Images

PKP2 Antibody (C-term) Blocking peptide - Background

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 gene product may regulate the signaling activity of beta-catenin. Two alternately spliced transcripts encoding two protein isoforms have been identified. A processed pseudogene with high similarity to this locus has been mapped to chromosome 12p13.

PKP2 Antibody (C-term) Blocking peptide - References

Fressart, V., et al. Europace 12(6):861-868(2010) Cox, M.G., et al. Circ Arrhythm Electrophysiol 3(2):126-133(2010) Christensen, A.H., et al. Cardiology 115(2):148-154(2010) den Haan, A.D., et al. Circ Cardiovasc Genet 2(5):428-435(2009) Bhuiyan, Z.A., et al. Circ Cardiovasc Genet 2(5):418-427(2009)