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Polycystins and mechanotransduction: From physiology to disease

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### Abstract

Polycystins are key mechanosensor proteins able to respond to mechanical forces of external or internal origin. They are widely expressed in primary cilium and plasma membrane of several cell types including kidney, vascular endothelial and smooth muscle cells, osteoblasts and cardiac myocytes modulating their physiology. Interaction of polycystins with diverse ion channels, cell-cell and cell-extracellular matrix junctional proteins implicates them in the regulation of cell structure, mechanical force transmission and mechanotransduction. Their intracellular localization in endoplasmic reticulum further regulates subcellular trafficking and calcium homeostasis,

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