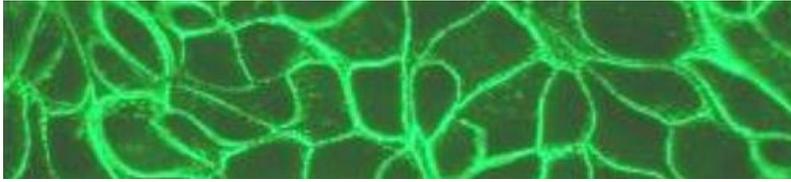


Desmosomes in differentiation, wound healing & cancer



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Desmosomes are strongly adhesive intercellular junctions of epithelial and cardiac muscle cells. They are located at the cell membrane and can be thought of as rivets that fasten cells together in tissues. Desmosomes are

essential for maintaining tissue integrity; loss of desmosomal adhesion can result in devastating skin blistering diseases and unexpected heart failure. They are complex structures that contain a number of proteins including desmosomal cadherins, armadillo proteins and plakin family members. Desmosomes are not just static adhesive rivets; they are dynamic structures that regulate intercellular adhesion and participate in fundamental processes such as cell proliferation, differentiation, morphogenesis and wound healing.

The main focus of our laboratory is to investigate the role of desmosomes in the biology of epithelial and cardiac tissues, both in normal development and disease. We are interested in the role of desmosomes in differentiation and morphogenesis, and are working on the possibility that expression of desmosomal proteins is altered in cancer. We have recently become interested in the structural biology of desmosomal proteins. We have fully purified a number of these proteins, and are using NMR and other biophysical techniques to learn more about their structure and interactions at the molecular level.

Selected publications...

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