

Pleomorphic extra-renal manifestation of the glomerular podocyte marker podocalyxin in tissues of normal beagle dogs.

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摘要

Abstract

Podocalyxin (PC) was initially identified as a major sialoprotein on the apical surface of glomerular podocytes to perform the filtration barrier function. Later, it was reported to be expressed in endothelial cells, megakaryotes/platelets, and hemangioblasts, the common progenitor cells of the hematopoietic and endothelial cells. Recently, increasing numbers of reports have indicated that PC is not merely a molecule restricted at renal glomerulus, angiogenic or hematopoietic system. To further elucidate the expression pattern and address the possible physiological role of PC in adult mammals, we conducted an extensive study by immunohistochemistry and immunofluorescence staining on various tissues of healthy adult beagle dogs. By combinatory usage of two different anti-podocalyxin antibodies recognizing distinct epitopes in PC, we have demonstrated that (1) PC is expressed in renal tubules, mesothelium, myocardium, striated muscles in tongue, esophagus and extraocular region, myoepithelial cells in esophagus and salivary glands, neurons, and ependyma, etc.; (2) there are at least three forms of PC proteins, depending upon the accessibility of two different PC antibodies, expressed in different organs/systems; and (3) a particular form of PC is distributed in a vesicle-like compartment in certain organs/systems, such as the central nervous system.

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