특별 강연 V

What is a Podocyte? Current Concepts in Health and Disease

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The final phenotype of the mature podocyte is of a highly differentiated and unique cell type. During glomerular development, podocytes develop during a process of mesenchymal condensation, followed by epithelialisation, and finally the acquisition of specialist features, including the re-acquisition of some mesenchymal markers. Recently it has been shown that podocytes possess highly specialized features of both neuronal cells, and smooth muscle cells. In fact it can be argued that the podocyte is analogous to a capillary pericyte, with the ability to contract and fine tune glomerular blood flow.

It is also becoming clear that the degree of mesenchymal transformation achieved by the mature podocyte is regulated by the specific transcription factor WT-1. There is evidence that the podocyte dedifferentiates during certain types of acquired glomerular disease, and a more detailed understanding of this process will help us to design therapies that can reverse those effects.