

콩팥내 림프관형성에서 Prox-1의 발현

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The Expression of Prox1 in the Lymphangiogenesis of Developing Mouse Kidney

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Purpose : The transcription factor prospero-related homeobox1 (Prox1) activity is required and sufficient to convert venous blood endothelial cells (BEC) into lymphatic endothelial cell (LEC). However, Prox1 expression in the lymphatic vasculature development of the kidney is not yet known. This study was undertaken to investigate the role of prox1 in the lymphangiogenesis of the developing mouse kidney.

Methods : The expression and localization of Prox1 in developing (16- to 18-day-old fetuses and 1- to 21-day-old pups) and C57BL/6 adult mice were examined by immunohistochemistry using antibodies for Prox1, LYVE-1, CD31, and F4/80.

Results : Prox1 was expressed on the nuclei of the developing LYVE-1-positive LEC in fetal and neonatal kidneys, and also in adult kidney. No immunoreactivity for Prox1 was observed in LYVE-1/CD31-positive BEC of arcuate vein and glomerulus, and in LYVE-1-positive solitary cells in interstitium.

Conclusion : These findings suggest that renal veins were not involved in lymphangiogenesis, and Prox1 is essential not only for the differentiation of lymphatic vasculature but also to maintain their phenotype identity throughout life.

Key Words : Prox-1, LYVE-1, 림프관형성
Prox-1, LYVE-1, Lymphangiogenesis