

EXPRESSION AND LOCALIZATION OF THE RECEPTOR PROTEIN TYROSINE PHOSPHATASE GAMMA (RPTP γ) IN THE MOUSE KIDNEY

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RPTP γ is expressed ubiquitously in human fetal and adult tissues, and most abundantly in lung and kidney tissues. While the location of the *PTPRG* gene on a frequently deleted chromosomal region in familial and sporadic renal cell carcinomas (RCC) suggests a tumor suppressive function, there is no firm evidence for its role in oncogenesis and the normal physiological function of RPTP γ in the kidney remains uncharacterized. The purpose of this work is to determine the expression and localization patterns of RPTP γ in the mouse kidney. We produced a polyclonal antibody against a 17- amino acid epitope in the extracellular N-terminal carbonic anhydrase related (CAH) domain of RPTP γ and compared a commercially available antibody (sc-1111 to a C-terminal epitope). Transcripts of RPTP γ were detected by RT-PCR of mRNA isolated from the mouse renal cortex and affinity purified CAH antibody specifically detected RPTP γ in purified proximal tubule suspensions. To determine the localization of RPTP γ along the nephron we used 5 μ m mouse kidney cryosections. RPTP γ localized to basolateral and apical membranes of proximal (S1, S2, S3) segments using affinity purified CAH antibody and sc-1111. In control sections, no background staining was detected using pre-immune serum, secondary staining only, or with antibodies pre-absorbed with their respective 17-mer or sc-1111 peptides. No staining was observed in the glomeruli. Basolateral membrane staining was clearly observed in several tubule segments suggesting a dual locality of RPTP γ in both basolateral and luminal membranes along the nephron.