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*Effects of Diabetes on Renal Calcium Homeostasis*

We present a model of the nephron tubule, accounting for renal epithelial solute reabsorption. This renal epithelial transport model was employed to investigate a variety of conditions and illnesses that significantly impact renal function, such as diabetes. This model was recently improved and currently accounts for 17 solutes, including calcium. We employ this model to study diabetes with a focus on diabetic renal calcium homeostasis. In particular, we investigate seemingly contradicting experimental findings in regard to renal calcium transport in diabetes. We also use the model to investigate the effects of diabetic treatments on calcium homeostasis.