Aldosterone maintains acid–base balance and K+ homeostasis by controlling H+ and K+ secretion in renal epithelial cells.This supports the hypothesis that intracellular H+ activity, regulated by the Na+/H+ exchanger, serves as the signal to couple aldosterone–induced K+ secretory flux to H+ secretion in renal tubules.Since H+ secretory fluxes are paralleled by K+ secretion, it was postulated that the hormone–induced increase of intracellular pH activates the luminally located K+ channels.