

# Demonstration of specific high affinity receptors for aldosterone in cytosol of rat colon

Binder, Henry J.

White, Allan

Whiting, Diane

Hayslett, John

Since both aldosterone and glucocorticoids increase cation transport in rat distal colon, and a specific glucocorticoid high affinity cytosolic receptor has been identified in this tissue, it was possible that the action of aldosterone was dependent on interaction with the glucocorticoid receptor. Studies were, therefore, performed to determine whether a specific high affinity receptor for aldosterone was present in rat distal colon. At 4°C, aldosterone binding was saturable and exhibited a high affinity site with an apparent  $K_d$  of  $6.2 \pm 0.9 \times 10^{-10}$  M and a calculated number of binding sites of  $57.2 \pm 10.8$  fmol/mg cytosol protein. Scatchard plot analysis also revealed a low affinity site with a  $K_d$  of  $5.9 \pm 1.1 \times 10^{-8}$  M and  $961 \pm 191$  fmol/mg cytosol protein-binding sites. Competitive binding studies demonstrated that the high affinity binding protein was specific for aldosterone, compared to either dexamethasone or RU-28362. Since a specific high affinity receptor protein for aldosterone