

# Calcium: Its role in the mechanism of action of angiotensin ii and potassium in aldosterone production

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The role of calcium in the angiotensin II- or potassium-mediated increase in aldosterone production was analyzed in isolated glomerulosa cells prepared from bovine adrenal glands. The response to potassium was highly dependent on the extracellular calcium concentration, and a maximal response was observed at 0.5 mM calcium. The response to angiotensin II was also a function of the calcium concentration between 0 and 0.5 mM Ca but was independent of calcium concentration above this value. The divalent ionophore A23187 also increased aldosterone production in a calcium-dependent manner. Methoxyverapamil blocked the stimulation of steroidogenesis due to angiotensin II and potassium. Calcium fluxes were studied during angiotensin II and potassium stimulation of aldosterone production. Incubation of zona glomerulosa cells with either angiotensin II or potassium at a concentration for maximal stimulation in the presence of radioactive calcium showed a significant increase in calcium uptake.