

Macula densa cells detect decreased sodium levels in the distal convoluted tubules

Baroreceptors detect decreased renal perfusion pressure

Sympathetic stimulation of the juxtaglomerular apparatus

RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM

Renin is released by the juxtaglomerular apparatus

Angiotensin Converting Enzyme (produced in the endothelial cells of the lungs and kidneys)

CLEAVES

Angiotensin (produced hepatically)

Angiotensin I

Angiotensin II

Binds to angiotensin I receptors causing **vasoconstriction**

Simulates an **increase in secretion of ADH** from the hypothalamus

Stimulates an increase in secretion of **norepinephrine**

Stimulates **increased aldosterone secretion**

Sodium and H₂O reabsorption in the distal convoluted tubule is increased along with vasoconstriction of the renal arterioles

Increased circulatory volume and increased renal perfusion