

Antidiuretic Hormone (Vasopressin)

ADH is *synthesized in the hypothalamus*.

ADH is **released from the posterior pituitary gland** when states of hypovolemia (low BP) or hyponatremia are detected.

Hyperosmolar states *most strongly trigger the release of ADH*.

Primary roles: control the body's osmotic balance, help to regulate blood pressure, sodium homeostasis and renal functioning.

When ADH is present, it induces the expression of water transport proteins in the late distal tubule and collecting duct causing an **increase in water reabsorption**.

At high concentrations, ADH *can cause vasoconstriction*. Together with the reabsorption of water, these mechanisms are effective in *increasing arterial blood volume and an increase in arterial blood pressure helping to maintain adequate tissue perfusion*.

There are **3 pathologic states** associated with ADH.

SIADH

Central diabetes insipidus

Nephrogenic diabetes insipidus

ADH is *used in the treatment of Von Willebrand's disease and hemophilia A*

