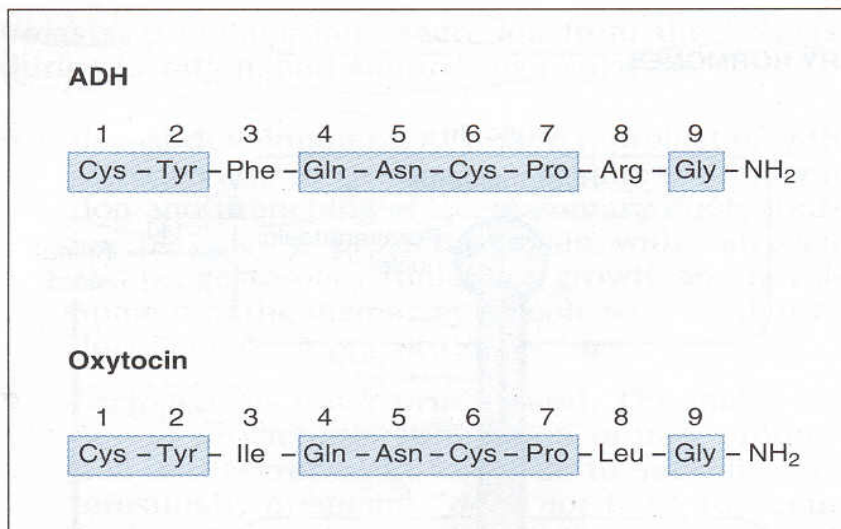
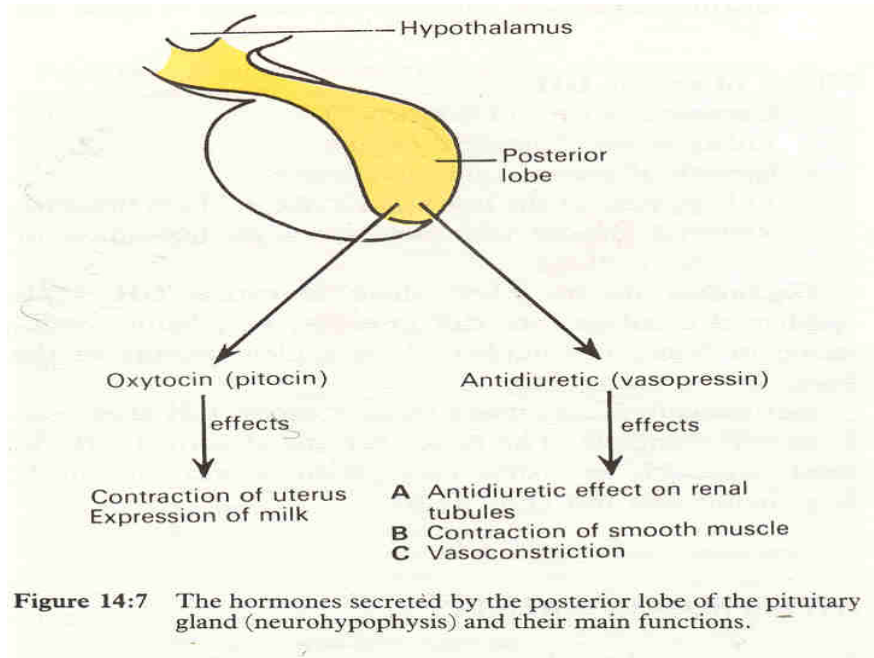


## POSTERIOR PITUITARY

### HORMONES

1- Antidiuretic hormone (ADH).

2- Oxytocin.



**FIGURE 9-13. Structures of antidiuretic hormone (ADH) and oxytocin.** Homologous amino acid sequences are shown within the shaded boxes.

## ADH

- Vasopressin.
- Nonapeptides.
- Supraoptic nuclei.
- Prepropressophysin.
- Neurophysins-2.
- 1/6.

## REGULATION OF SECRETION

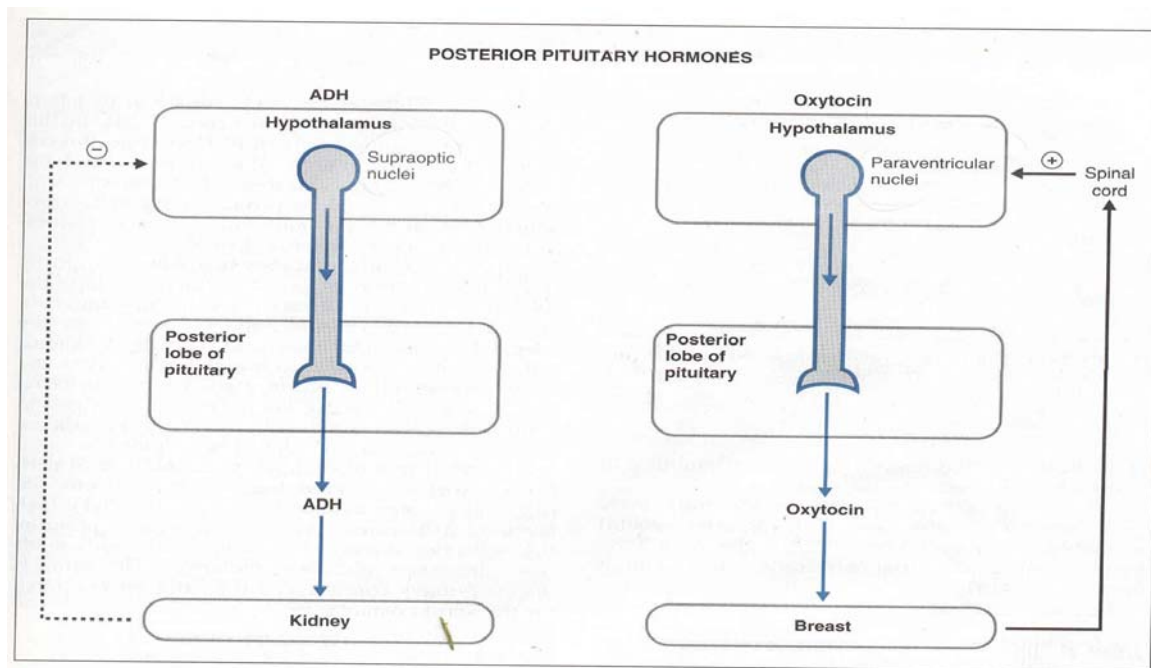


FIGURE 9-12. Regulation of antidiuretic hormone (ADH) and oxytocin secretions.

## **ACTION**

### **1- Osmolarity regulation.**

**Increase water reabsorption.**

**V2 receptor**



**Gs protein.**



**Adenylyl cyclase.**



**cAMP**



**Phosphorylation**



**Insertion.**

### **2- Contraction of vascular smooth muscle.**

**V1 receptor.**



**Gs protein.**



**Phospholipase C.**



**IP3, Ca**



**contraction**

## Factors affecting ADH secretion

Stimulatory factors	Inhibitory factors
Increased serum osmolarity	Decreased serum osmolarity
Decreased ECF volume	Ethanol
Pain	$\alpha$ -Adrenergic agonists
Nausea	Atrial natriuretic peptide (ANP)
Hypoglycemia	
Nicotine	
Opiates	
Antineoplastic drugs	

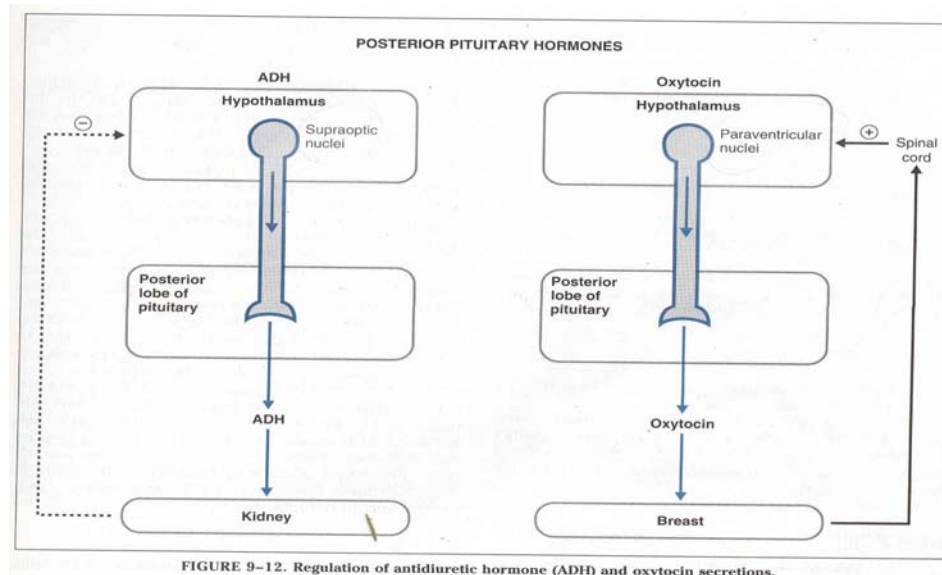
## ABNORMALITIES

- **Diabetes insipidus**
  - 1- central.
  - 2- nephrogenic.
- **Syndrome of inappropriate ADH (SIADH).**

## OXYTOCYN

- **Nonapeptides.**
- **Paraventricular nuclei.**
- **Preprooxyphysin.**
- **Neurophysins-1.**

## REGULATION OF SECRETION



### Factors affecting oxytocin secretion

Stimulatory factors	Inhibitory factors
Suckling	Opioids (endorphins)
Light, sound, or smell of the infant	
Dilation of the cervix	
Orgasm	

### ACTION

1- Milk ejection.

2- Uterine contraction.

Inducing labor.

Reducing postpartum bleeding.