Name	**Oxytocin Acetate**
Cat #	PP-1580
Size	1 g, 10 g, 100, g and bulk custom packages
CAS#	50-56-6
Mol. Mass	1007.19
Formula	C43H66N12O12S2
Sequence	H-Cys-Tyr-Ile-Gln-Asn-Cys-Pro-Leu-Gly-NH2
Purity	
Appearance	
General Information	Stimulates uterine contraction and lactation; increases Na+ excretion; stimulates myometrial GTPase and phospholipase C

Oxytocin (IPA: /□ɔk.sɪ.□toʊ.sɪn/) (Greek, "quick birth") is a mammalian hormone that also acts as a neurotransmitter in the brain.

It is best known for its roles in female reproduction: it is released in large amounts after distension of the cervix and vagina during labor, and after stimulation of the nipples, facilitating birth and breastfeeding, respectively. Recent studies have begun to investigate oxytocin's role in various behaviors, including social recognition, bonding, anxiety, trust, and maternal behaviors

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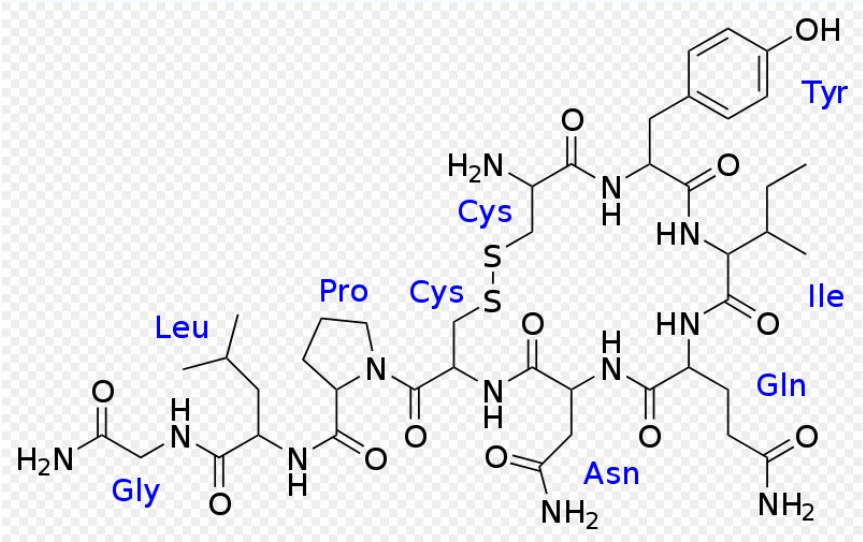

Oxytocin is made in magnocellular neurosecretory cells of the supraoptic and paraventricular nuclei of the hypothalamus and is stored in Herring bodies at the axon terminals in the posterior pituitary. It is then released into the blood from the posterior lobe (neurohypophysis) of the pituitary gland. Oxytocin is also made by some neurons in the paraventricular nucleus that project to other parts of the brain and to the spinal cord. Depending on the species, oxytocin-expressing cells are located in other areas, including the

amygdala and bed nucleus of the stria terminalis. It is postulated that trusting behavior is somehow influenced by these oxytocin stimulated neurons.

In the pituitary gland, oxytocin is packaged in large, dense-core vesicles, where it is bound to neurophysin I as shown in the inset of the figure; neurophysin is a large peptide fragment of the larger precursor protein molecule from which oxytocin is derived by enzymatic cleavage.

Secretion of oxytocin from the neurosecretory nerve endings is regulated by the electrical activity of the oxytocin cells in the hypothalamus. These cells generate action potentials that propagate down axons to the nerve endings in the pituitary; the endings contain large numbers of oxytocin-containing vesicles, which are released by exocytosis when the nerve terminals are depolarised.

Oxytocin is also synthesized by corpora lutea of several species, including ruminants and primates. Along with estrogen, it is involved in inducing the endometrial synthesis of Prostaglandin-F2alpha to cause regression of the corpus luteum