

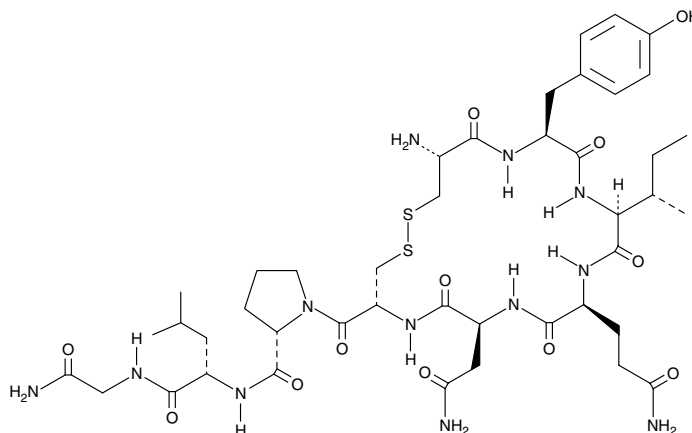
Product Information



Oxytocin

Item No. 11799

CAS Registry No.: 50-56-6
Formal Name: 1,2-dithia-5,8,11,14,17-pentaazacycloeicosane
Synonyms: Atonin O, Endopituitrina, Glycinamide, Nobitocin S, Synpitan, Pitocin, Uteracon, Vasopressin
MF: $C_{43}H_{66}N_{12}O_{12}S_2$
FW: 1,007.2
Purity: $\geq 98\%$
Stability: ≥ 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 278 nm



Laboratory Procedures

For long term storage, we suggest that oxytocin be stored as supplied at -20°C . It should be stable for at least two years.

Oxytocin is supplied as a crystalline solid. A stock solution may be made by dissolving the oxytocin in the solvent of choice. Oxytocin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of oxytocin in these solvents is approximately 5, 14, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of oxytocin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of oxytocin in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Oxytocin is a nonapeptide hormone primarily synthesized in magnocellular neurons of the paraventricular and supraoptic nuclei of the hypothalamus. It is known best for its role in stimulating uterine contraction and lactation and is important for social memory and attachment, sexual and maternal behavior, and aggression.^{1,2} Also, it has been implicated in various non-social behaviors, including learning, anxiety, feeding, and pain perception.^{1,2}

References

1. Lee, H.-J., Macbeth, A.H., Pagani, J., *et al.* Oxytocin: The great facilitator of life. *Prog. Neurobiol.* **88**(2), 127-151 (2009).
2. Gimpl, G. and Fahrenholz, F. The oxytocin receptor system: Structure, function, and regulation. *Physiol. Rev.* **81**(2), 629-683 (2001).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11799

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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