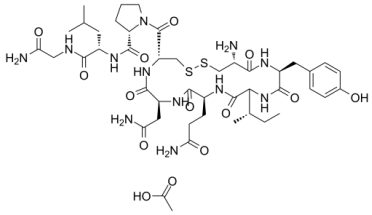
Data Sheet

Product Name:	Oxytocin (acetate)
Cat. No.:	CS-3775
CAS No.:	6233-83-6
Molecular Formula:	$C_{45}H_{70}N_{12}O_{14}S_2$
Molecular Weight:	1067.24
Target:	Endogenous Metabolite; Oxytocin Receptor
Pathway:	GPCR/G Protein; Metabolic Enzyme/Protease
Solubility:	DMSO : ≥ 44 mg/mL (41.23 mM); H2O : 50 mg/mL (46.85 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Oxytocin acetate is a pleiotropic, **hypothalamic peptide** known for facilitating parturition, lactation, and prosocial behaviors. Oxytocin acetate can function as a stress-coping molecule with anti-inflammatory, antioxidant, and protective effects especially in the face of adversity or trauma[1][2]. **In Vivo:** During the LMA task, rat core body temperature are modestly decreased. Oxytocin acetate (subcutaneous injection; 0.1 mg/kg-0.3 mg/kg; single dose) produces significantly greater hypothermia (at 0.3 mg/kg) than either saline or the two lower doses of oxytocin. Oxytocin at 0.3 mg/kg produces a significantly greater decrease in temperature than vehicle between 15-60 min post injection, whereas 0.1 mg/kg slightly decreases temperature at the 30 min time point only[1].
Oxytocin acetate (0.1 mg/kg) engages in significantly more body sniffing and ano-genital sniffing compared with saline controls. It also increases the total time spent in social interaction (71.6±4.3 s), compared to those receiving vehicle (56.9±4.1 s)[1].

References:

[1]. Shivali Kohli, et al. Oxytocin attenuates phencyclidine hyperactivity and increases social interaction and nucleus accumben dopamine release in rats. Neuropsychopharmacology. 2019 Jan;44(2):295-305.

[2]. C Sue Carter, et al. Is Oxytocin "Nature's Medicine"? Pharmacol Rev. 2020 Oct;72(4):829-861.

CAIndexNames:

Oxytocin, acetate (1:1)

SMILES:

CC(O)=O.O=C([C@H](CSSC[C@@H](C(N[C@H](C1=O)CC2=CC=C(O)C=C2)=O)N)NC([C@@H](NC([C@@H](NC(C(N1)[C@@H](C)CC)=O)CCC(N)=O)=O)CC(N)=O)=O)N(CCC3)[C@@H]3C(N[C@@H](CC(C)C)C(NCC(N)=O)=O)=O

Caution: Product has not been fully validated for medical applications. For research use only.

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