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PRODUCT INFORMATION



Arginine Vasotocin (trifluoroacetate salt)

Item No. 24768

Formal Name: 8-L-arginine-oxytocin, trifluoroacetate salt

Synonyms: [Arg⁸]-Vasotocin, AVT

MF: C₄₃H₆₇N₁₅O₁₂S₂ • XCF₃COOH

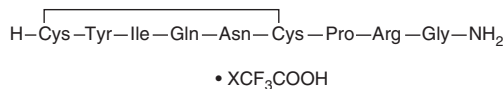
FW: 1,050.2

Purity: ≥95%

Supplied as: A lyophilized powder

Storage: -20°C

Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Arginine vasotocin (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the arginine vasotocin (trifluoroacetate salt) in water. The solubility of arginine vasotocin (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Arginine vasotocin is a nonapeptide hormone agonist of the AVT receptor (EC₅₀ = 13 nM for eliciting membrane currents in *X. laevis* oocytes).¹ Arginine vasotocin is synthesized in the pineal recess and subcommissural organ by ependymal cells and released into the cerebrospinal fluid.² It inhibits the induction of sleep and release of hypothalamic releasing and inhibiting hormones. Arginine vasotocin stimulates glycogen phosphorylase α activity and incorporation of phosphate into phosphatidylinositol in rat hepatocytes (EC₅₀s = 0.5 nM and 6.3 nM, respectively).³ Following a two-minute pulse of arginine vasotocin (1 μM) to neurons isolated from rat suprachiasmatic nuclei, 40.6% of neurons show an increase in firing rate with 11% of the activated neurons responding only to arginine vasotocin and not argipressin (Item No. 24154).⁴ Arginine vasotocin (0.1 μg, i.c.v.) activates sexual behavior in male newts and increases the number of clasps per male from saline control levels of 0.6 to 2.9 in an eight-hour period.⁵ In rainbow trout, arginine vasotocin (0.1 ng/g, i.c.v.) reduces food intake by over 95% and, after eight hours, increases cortisol and glucose levels by 89% and 27%, respectively.⁶

References

1. Mahlmann, S., Meyerhof, W., Hausmann, H., *et al.* Structure, function, and phylogeny of [Arg⁸]vasotocin receptors from teleost fish and toad. *Proc. Natl. Acad. Sci. U.S.A.* **91**(4), 1342-1345 (1994).
2. Pavel, S. Arginine vasotocin as a pineal hormone. *J. Neural Transm. Suppl.* **13**, 135-155 (1978).
3. Kirk, C.J., Rodrigues, L.M., and Hems, D.A. The influence of vasopressin and related peptides on glycogen phosphorylase activity and phosphatidylinositol metabolism in hepatocytes. *Biochem J.* **178**(2), 493-496 (1979).
4. Mihai, R., Coculescu, M., Wakerley, J.B., *et al.* The effects of [Arg⁸]vasopressin and [Arg⁸]vasotocin on the firing rate of suprachiasmatic neurons *in vitro*. *Neuroscience* **62**(3), 783-792 (1994).
5. Moore, F.L. and Miller, L.J. Arginine vasotocin induces sexual behavior of newts by acting on cells in the brain. *Peptides* **4**(1), 97-102 (1983).
6. Gesto, M., Soengas, J.L., Rodríguez-Illamola, A., *et al.* Arginine vasotocin treatment induces a stress response and exerts a potent anorexigenic effect in rainbow trout, *Oncorhynchus mykiss*. *J. Neuroendocrinol.* **26**(2), 89-99 (2014).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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