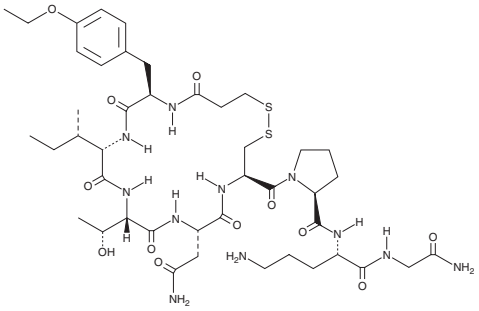
PRODUCT INFORMATION

Atosiban

Item No. 20952



CAS Registry No.:	90779-69-4
Formal Name:	cyclic (1→5)-disulfide O-ethyl-N-(3-mercapto-1-oxopropyl)-D-tyrosyl-L-isoleucyl-L-threonyl-L-asparaginyl-L-cysteinyl-L-prolyl-L-ornithyl-glycinamide
Synonyms:	Antocin, ORF 22164, RWJ 22164, Tractocile
MF:	$C_{43}H_{67}N_{11}O_{12}S_2$
FW:	994.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 223, 246, 259, 270 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years

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

Laboratory Procedures

Atosiban is supplied as a crystalline solid. A stock solution may be made by dissolving the atosiban in the solvent of choice, which should be purged with an inert gas. Atosiban is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of atosiban 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 atosiban can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of atosiban in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Atosiban is a peptide analog of oxytocin (Item No. 11799) that antagonizes the human oxytocin receptor (K_i = 81 nM).[1] It also binds the vasopressin V_{1a} receptor (K_i = 3.5 nM).[1] Because of its effects on the oxytocin receptor, atosiban has tocolytic actions in the acute phase of imminent preterm birth.[2-4]

References

1. Cirillo, R., Tos, E.G., Schwarz, M.K., *et al.* Pharmacology of (2S,4Z)-N-[(2S)-2-hydroxy-2-phenylethyl]-4-(methoxyimino)-1-[(2'-methyl[1,1'-biphenyl]-4-yl)carbonyl]-2-pyrrolidinecarboxamide, a new potent and selective nonpeptide antagonist of the oxytocin receptor. *J. Pharmacol. Exp. Ther.* **306(1)**, 253-261 (2003).
2. Lamont, R.F. The development and introduction of anti-oxytocic tocolytics. *Br. J. Obstet. Gynaecol.* **110(Suppl 20)**, 108-112 (2003).
3. Moutquin, J.M., Sherman, D., Cohen, H., *et al.* Double-blind, randomized, controlled trial of atosiban and ritodrine in the treatment of preterm labor: A multicenter effectiveness and safety study. *Am. J. Obstet. Gynecol.* **182(5)**, 1191-1199 (2000).
4. Romero, R., Sibai, B.M., Sanchez-Ramos, L., *et al.* An oxytocin receptor antagonist (atosiban) in the treatment of preterm labor: A randomized, double-blind, placebo-controlled trial with tocolytic rescue. *Am. J. Obstet. Gynecol.* **182(5)**, 1173-1183 (2000).

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