

# Certificate of Analysis

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**Product Name:** Atosiban  
**CAS Number:** 90779-69-4

**Catalog No.:** 6332      **Batch No.:** 2

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>43</sub>H<sub>67</sub>N<sub>11</sub>O<sub>12</sub>S<sub>2</sub>  
**Batch Molecular Weight:** 994.19  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 91%  
**Counter Ion:** Acetate  
**Solubility:** Soluble to 100 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:**

Mpr-D-Tyr(OEt)-Ile-Thr-Asn-Cys-Pro-Orn-Gly-NH<sub>2</sub>

## 2. ANALYTICAL DATA

**HPLC:** Shows 99.6% purity  
**Mass Spectrum:** Consistent with structure

## 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys		
Arg			Met		
Asx	1.00	1.10	Phe		
Cys	1.00	Detected	Pro	1.00	1.00
Glx			Ser		
Gly	1.00	1.00	Thr	1.00	0.90
His			Trp		
Ile	1.00	0.90	Tyr	1.00	0.80
Leu			Val		

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Product Name:** Atosiban  
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**Description:**

Potent oxytocin receptor (OTR) antagonist. Inhibits oxytocin-induced increase in Ca<sup>2+</sup> concentration in myometrial cells in vitro (IC<sub>50</sub> = 5 nM) Activates NF-κB and MAPK pathways in human amnion via G<sub>αi</sub> signaling, resulting in pro-inflammatory effects. Inhibits oxytocin-induced uterine contractions in vivo and in vitro. Effective in a rat preterm labor model.

**Physical and Chemical Properties:**

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Batch Molecular Weight: 994.19  
Physical Appearance: White lyophilised solid

**Peptide Sequence:**



**Storage:** Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**

Soluble to 100 mg/ml in water

**Net Peptide Content:** 91% (Remaining weight made up of counterions and residual water).

**Counter Ion:** Acetate

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such as Cys, Met, Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 µm filter to remove potential bacterial contamination whenever possible.

**References:**

- Kim et al** (2017) Differential effects of oxyt. receptor antagonists, Atosiban and Nolasiban, on oxyt. receptor-mediated signaling in human amnion and myometrium. *Mol.Pharmacol.* **91** 403. PMID: 28188254.
- Kim et al** (2016) The oxyt. receptor antagonist, Atosiban, activates pro-inflammatory pathways in human amnion via G<sub>αi</sub> signalling. *Mol.Cell.Endocrinol.* **420** 11. PMID: 26586210.
- Maggi et al** (1994) Antagonists for the human oxyt. receptor: an *in vitro* study. *J.Reprod.Fertil.* **101** 345. PMID: 7932368.
- Hahn et al** (1987) Evaluation of 1-deamino-[D-Tyr(Oethyl)<sup>2</sup>, Thr<sup>4</sup>, Orn<sup>8</sup>] vasotocin, an oxyt. antagonist, in animal models of uterine contractility and preterm labor: a new tocolytic agent. *Am.J.Obstet.Gynecol.* **157** 977. PMID: 3674173.

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