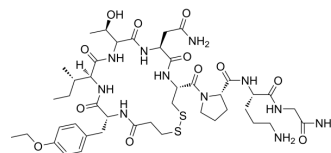


Atosiban

Cat. No.:	HY-17572
CAS No.:	90779-69-4
Molecular Formula:	C ₄₃ H ₆₇ N ₁₁ O ₁₂ S ₂
Molecular Weight:	994.19
Target:	Oxytocin Receptor; Vasopressin Receptor
Pathway:	GPCR/G Protein
Storage:	Sealed storage, away from moisture
	Powder -80°C 2 years
	-20°C 1 year



* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

SOLVENT & SOLUBILITY

In Vitro

H₂O : 16.67 mg/mL (16.77 mM; Need ultrasonic)
 DMSO : ≥ 16.67 mg/mL (16.77 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		1.0058 mL	5.0292 mL	10.0584 mL
	5 mM		0.2012 mL	1.0058 mL	2.0117 mL
	10 mM		0.1006 mL	0.5029 mL	1.0058 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 1.67 mg/mL (1.68 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 1.67 mg/mL (1.68 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 1.67 mg/mL (1.68 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Atosiban (RW22164; RWJ22164) is a nonapeptide competitive vasopressin/oxytocin receptor antagonist, and is a desamino-oxytocin analogue. Atosiban is the main tocolytic agent and has the potential for spontaneous preterm labor research^[1].

In Vitro

Atosiban inhibits the oxytocin-mediated release of IP3 from the myometrial cell membrane. There is reduced release of intracellular, stored calcium from the sarcoplasmic reticulum of myometrial cells, and reduced influx of Ca²⁺ from the

extracellular space through voltage gated channels. In addition, Atosiban suppresses oxytocin-mediated release of PGE and PGF from the decidua^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

The posterior pituitary hormones, oxytocin and arginine vasopressin, differ in structure by only two amino acids, and Atosiban influences physiological effects of arginine vasopressin on the feto-maternal cardiovascular and renal systems. In late-gestation sheep, the administration of Atosiban for 1 hour fails to induce fetomaternal cardiovascular changes^[1]. Atosiban blocks the activation of oxytocin-receptor-expressing neurons in the parabrachial nucleus of mice^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Front Neurosci. 2021 Sep 10;15:723064.
- J Pharm Biomed Anal. 2022: 115156.
- J Pharm Biomed Anal. 11 December 2021, 114518.

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REFERENCES

[1]. Sanu O, et al. Critical appraisal and clinical utility of atosiban in the management of preterm labor. Ther Clin Risk Manag. 2010 Apr 26;6:191-9.

[2]. Philip J Ryan, et al. Oxytocin-receptor-expressing Neurons in the Parabrachial Nucleus Regulate Fluid Intake. Nat Neurosci. 2017 Dec;20(12):1722-1733.

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

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