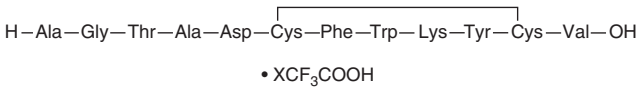
PRODUCT INFORMATION

Urotensin II (goby) (trifluoroacetate salt)

Item No. 24753

Formal Name: L-alanylglycyl-L-threonyl-L-alanyl-L-α-aspartyl-L-cysteinyl-L-phenylalanyl-L-tryptophyl-L-lysyl-L-tyrosyl-L-cysteinyl-L-valine, cyclic (6→11)-disulfide, trifluoroacetate salt
Synonyms: U-II, Urotensin II (*G. mirabilis*)
MF: $C_{62}H_{84}N_{14}O_{17}S_2 \bullet XCF_3COOH$
FW: 1,361.5
Purity: ≥95%
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

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

Description

Urotensin II is a peptide vasoconstrictor and agonist of the urotensin (UT) receptor (K_i = 2.06 nM for the human recombinant receptor expressed in HEK293 cells).[1] It stimulates intracellular calcium mobilization in HEK293 cells expressing human and rat UT (EC_{50}s = 0.47 and 0.78 nM, respectively) but decreases intracellular calcium concentration in goby (*G. mirabilis*) enterocytes when used at a concentration of 500 nM.[2] Urotensin II (20 mU/ml) stimulates active sodium and chloride absorption across isolated goby posterior intestine in 5% seawater-adapted solution.[3] *In vivo*, urotensin II (1.5-150 nmol/kg) decreases diastolic blood pressure and increases heart rate in anesthetized rats.[4] It also reduces the pressor responses to sympathetic nerve stimulation, norepinephrine (Item No. 16673), and vasopressin in pithed rats when administered at a dose of 150 nmol/kg.

References

1. Ames, R.S., Sarau, H.M., Chambers, J.K., *et al.* Human urotensin-II is a potent vasoconstrictor and agonist for the orphan receptor GPR14. *Nature* **401(6750)**, 282-286 (1999).
2. Loretz, C.A. and Assad, J.A. Urotensin II lowers cytoplasmic free calcium concentration in goby enterocytes: Measurements using quin2. *Gen. Comp. Endocrinol.* **64(3)**, 355-361 (1986).
3. Loretz, C.A., Freel, R.W., and Bern, H.A. Specificity of response of intestinal ion transport systems to a pair of natural peptide hormone analogs: Somatostatin and urotensin II. *Gen. Comp. Endocrinol.* **52(2)**, 198-206 (1983).
4. Gibson, A., Wallace, P., and Bern, H.A. Cardiovascular effects of urotensin II in anesthetized and pithed rats. *Gen. Comp. Endocrinol.* **64(3)**, 435-439 (1986).

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