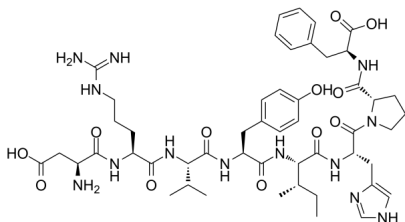


Certificate of Analysis

Catalog Number	BP22565
Product Name	Angiotensin II human

Physical and Chemical Properties

Synonyms	Angiotensin II; Ang II; DRVYIHPEF
CAS No.	4474-91-3
Chemical Formula	C ₅₀ H ₇₁ N ₁₃ O ₁₂
Molecular Weight	1046.18
Solubility	DMSO: 100 mg/mL (95.59 mM, Need ultrasonic) H ₂ O: 50 mg/mL (47.79 mM, Need ultrasonic)
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year
Chemical Structure OR Tested Image	

Product Information

Description	<p>Angiotensin II (Angiotensin II) is a vasoconstrictor and a major bioactive peptide of the renin/angiotensin system. Angiotensin II human plays a central role in regulating human blood pressure, which is mainly mediated by interactions between Angiotensin II and the G-protein-coupled receptors (GPCRs) Angiotensin II type 1 receptor (AT1R) and Angiotensin II type 2 receptor (AT2R). Angiotensin II human stimulates sympathetic nervous stimulation, increases aldosterone biosynthesis and renal actions. Angiotensin II human induces growth of vascular smooth muscle cells, increases collagen type I and III synthesis in fibroblasts, leading to thickening of the vascular wall and myocardium, and fibrosis. Angiotensin II human also induces apoptosis. Angiotensin II induces capillary formation from endothelial cells via the LOX-1 dependent redox-sensitive pathway.</p>
In vitro	<p>Most of the known actions of Angiotensin II (Ang II) are mediated by AT1 receptors, the AT2 receptor contributes to the regulation of blood pressure and renal function. Angiotensin II raises blood pressure (BP) by a number of actions, the most important ones being vasoconstriction, sympathetic nervous stimulation, increased aldosterone biosynthesis and renal actions. Other Angiotensin II actions include induction of growth, cell migration, and mitosis of vascular smooth muscle cells, increased synthesis of collagen type I and III in fibroblasts, leading to thickening of the vascular wall and myocardium, and fibrosis. These actions are mediated by type 1 Ang II receptors (AT1). Angiotensin II (1 nM) induces the expression of LOX-1 and VEGF and enhances capillary formation from human coronary endothelial cells in Matrigel assay. Angiotensin II - mediated expression of LOX-1 and VEGF, capillary formation, intracellular reactive oxygen species generation, and phosphorylation of p38 as well as p44/42 mitogen-activated protein kinases, are suppressed by anti-LOX-1 antibody, nicotinamide-adenine dinucleotide phosphate oxidase inhibitor apocynin and the Ang II type 1 receptor blocker Losartan, but not by the Ang II type 2 receptor blocker PD123319.</p>
In vivo	<p>Angiotensin II human (5 mL of 1 nM; intraperitoneal injection; 200-250 g Sprague-Dawley rats) induces a significant neutrophil recruitment that was maximal at 4 hours and had resolved by 24 hours. To distinguish the AT1 receptor population that is critical for the pathogenesis of hypertension, osmotic minipumps are implanted s.c. into each animal to infuse Angiotensin II (1000 ng/kg/min) continuously for 4 weeks. Angiotensin II causes hypertension by activating AT1 receptors in the kidney promoting sodium reabsorption.</p>

Analytical Data

HPLC	Shows Min >99% purity
H-NMR	Consistent with structure
Stability and Solubility Advice	Information on product stability, especially in solution, has rarely been reported and in most cases we can only provide a general guideline. We recommend that once the stock solution has been prepared, it be stored in equal quantities in sealed vials and used within 1 month. Avoid repeated freezing and thawing cycles. Storage conditions for some special products should be referred to their storage details.

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v2 Revision on 12/28/2022