

Product Information

Angiotensin II human

Catalog Number **A9525**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 4474-91-3

Synonyms: Ang II, Hypertensin II,
Asp-Arg-Val-Tyr-Ile-His-Pro-Phe

Product Description

In nature, angiotensin II (Ang II) is formed by the action of angiotensin converting enzyme (ACE), which cleaves the C-terminal -His-Leu from the decapeptide, angiotensin I.¹ Angiotensin II is a vasoconstrictor, while its precursor is inactive. It is important in regulating cardiovascular hemodynamics and cardiovascular structure. Most of the known effects of Ang II in adult tissues are attributable to the angiotensin II type I (AT₁) receptor. The AT₁ and AT₂ receptors have differential pharmacological and biochemical properties, and appear to exert opposite effects in terms of cardiovascular hemodynamics and cell growth. In addition, the renin-angiotensin and nitric oxide-generating systems appear to interact in the regulation of cardiovascular function. Ang II stimulates angiogenesis and increases microvessel density.

This product is a synthetic peptide.

Molecular formula: C₅₀H₇₁N₁₃O₁₂

Molecular mass: 1046.18 Da for anhydrous, free base

Water content: $\leq 10\%$ (Karl Fischer)

Acetate content: 1.2–10.4%

Peptide content: $\geq 75\%$ (Amino Acid Analysis)

Peptide purity: $\geq 93\%$ (HPLC)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Angiotensin II is soluble in water (25 mg/ml), yielding a clear, colorless solution. It is soluble in organic solvents (including ethanol) and in aqueous solutions (pH 5–8).^{1,2} Angiotensin II is hydrolyzed by strong acids or at pH ≥ 9.5 .¹ Solutions may be sterilized by filtration through a 0.2 μm filter, but some loss will occur for solutions below 100 $\mu\text{g/ml}$. At very low concentrations, a significant percentage may also be lost by absorption to walls of glass containers. These losses can be minimized by treating filters and containers with an albumin solution (BSA, 1 mg/ml) and then rinsing well with water before applying the peptide solution.

Storage/Stability

It is recommended to store angiotensin II at $-20\text{ }^{\circ}\text{C}$. Lyophilized peptides are generally extraordinarily stable at sub-zero temperatures, often showing little or no degradation even after years. To avoid condensation of moisture in the bottle, allow the vial to reach room temperature before opening. If the contents of a vial are not used immediately, blanket with an inert gas (nitrogen) and store desiccated in the dark at $-20\text{ }^{\circ}\text{C}$.

Stock solutions at neutral pH stored at $-20\text{ }^{\circ}\text{C}$ should remain active for at least two months. Avoid repeated freeze-thaw cycles. The reconstituted peptide solution may also be aliquoted, lyophilized, and stored at $-20\text{ }^{\circ}\text{C}$. Peptides in solution are also susceptible to proteolytic degradation. Proteases of microbial origin may be excluded by the use of freshly distilled water and sterile filtration. Gloves are recommended to avoid chance contact with human proteases present on the skin.

References

1. *Merck Index*, 12th Ed., #689 (1996).
2. *Data for Biochemical Research*, 3rd ed., eds. Dawson, R. et al. (Oxford Univ. Press, 1986) p. 7.

IDC,AF,KAA,RGB,MAM 04/12-1