



>>Entry Name: Angiotensin

Synonym(s): Hypertensin. Angiotenin. Delivert

Related CAS Registry Numbers(s): 9041-90-1 11128-99-7 12687-51-3 13602-53-4 49759-44-6 70937-97-2 72007-47-7 85344-34-9

Angiotensin I: H-Asp-Arg-Val-Tyr-His-Pro-Phe-His-Leu-OH. Angiotensin II: H-Asp-Arg-Val-Tyr-X-His-Pro-Phe-OH

General Statement: A group of peptide hormones formed by the action of renin, secreted from the kidney cortex, on a biologically inactive precursor, Angiotensinogen, contained in the α_2 -globulin fraction of blood plasma. Angiotensin I (biologically inactive) is rapidly converted by Angiotensinase into Angiotensin II, lacking the terminal histidylleucyl residue, which acts rapidly upon smooth muscle, causing hypertensive action and stimulates the release of aldosterone from the adrenal gland. Different spp. produce peptides differing in the fifth amino acid residue (valine or isoleucine); both forms show the same biological activity

Development Status: Launched 1994 (Japan)

>>Variant: 5-L-Isoleucineangiotensin I

CAS Registry Number: 484-42-4

Molecular Formula: $C_{62}H_{89}N_{17}O_4$

Molecular Weight: 1136.497

Accurate Mass: 1135.728343

Percentage Composition: C 65.52%; H 7.89%; N 20.95%; O 5.63%

Biological Source: Peptide produced by the action of renin on human, horse or hog plasma globulin

Physical Description: Amorph. powder

>>Variant: 5-L-Valineangiotensin I

Synonym(s): Pepsitensin

CAS Registry Number: 484-43-5

Molecular Formula: $C_{61}H_{87}N_{17}O_{14}$

Molecular Weight: 1282.464

Accurate Mass: 1281.661843

Percentage Composition: C 57.13%; H 6.84%; N 18.57%; O 17.47%

Biological Source: Peptide produced by the action of renin or pepsin on ox plasma globulin

Physical Description: Amorph. powder + 1AcOH and 4 or 5H₂O

Melting Point: Mp 289-290° (tetrahydrate). Mp 220 dec.° (pentahydrate)

Optical Rotation: $[\alpha]_D^{22} -67.5$ (c, 1.69 in H₂O)

Sigma: A9402

>>Derivative: [Asp¹]Amide

Physical Description: Amorph. powder + 1AcOH and 5H₂O

Melting Point: Mp 220 dec.°

Optical Rotation: $[\alpha]_D -68$ (c, 1.67 in H₂O)

>>Variant: 5-L-Isoleucineangiotensin II

Synonym(s): Angiotensin II, INN. Ba 33902

CAS Registry Number: 4474-91-3

Molecular Formula: $C_{50}H_{71}N_{13}O_{12}$

Molecular Weight: 1046.191

Accurate Mass: 1045.534517

Percentage Composition: C 57.40%; H 6.84%; N 17.40%; O 18.35%

Physical Description: Powder + 1AcOH

Melting Point: Mp 230-247 dec.°

Optical Rotation: $[\alpha]_D^{20} -66.98$ (c, 0.4 in 1N HCl)

>>Derivative: [Asp¹]Amide

Physical Description: Powder

Melting Point: Mp 195-205 dec.°

Optical Rotation: $[\alpha]_D -44$ (c, 0.558 in H₂O)