

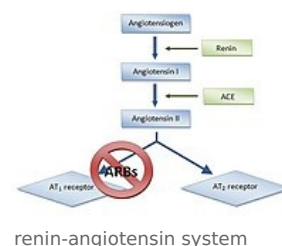
Angiotensin

Angiotensin is an oligopeptide playing a major role in **blood pressure regulation**. It is part of the so-called renin-angiotensin system. This system represents the stepwise conversion of the angiotensin precursor, angiotensinogen, to the final product of this system, angiotensin II.

Angiotensinogen is a plasma protein (α_2 -globulin) which is a precursor for the first of the intermediate products of the renin-angiotensin system, angiotensin I. It is produced due to the action of the enzyme of the juxtaglomerular apparatus of the kidneys, renin. Renin cleaves several amino acids (3) from angiotensinogen to form angiotensin I.

Angiotensin I is chemically a decapeptide, which is further converted in the blood, especially in the lungs, by angiotensin-converting enzyme (ACE) to angiotensin II.

Angiotensin II is an active component of **the renin-angiotensin system**. It has a very strong vasoconstrictive effect on resistance vessels, especially on arterioles, activates the sympathetic system and stimulates the secretion of aldosterone.



Amino acid order:

- Angiotensinogen

Asp – Arg – Val – Tyr – Ile – His – Pro – Phe – His – Leu – Leu – Val – Tyr – Ser

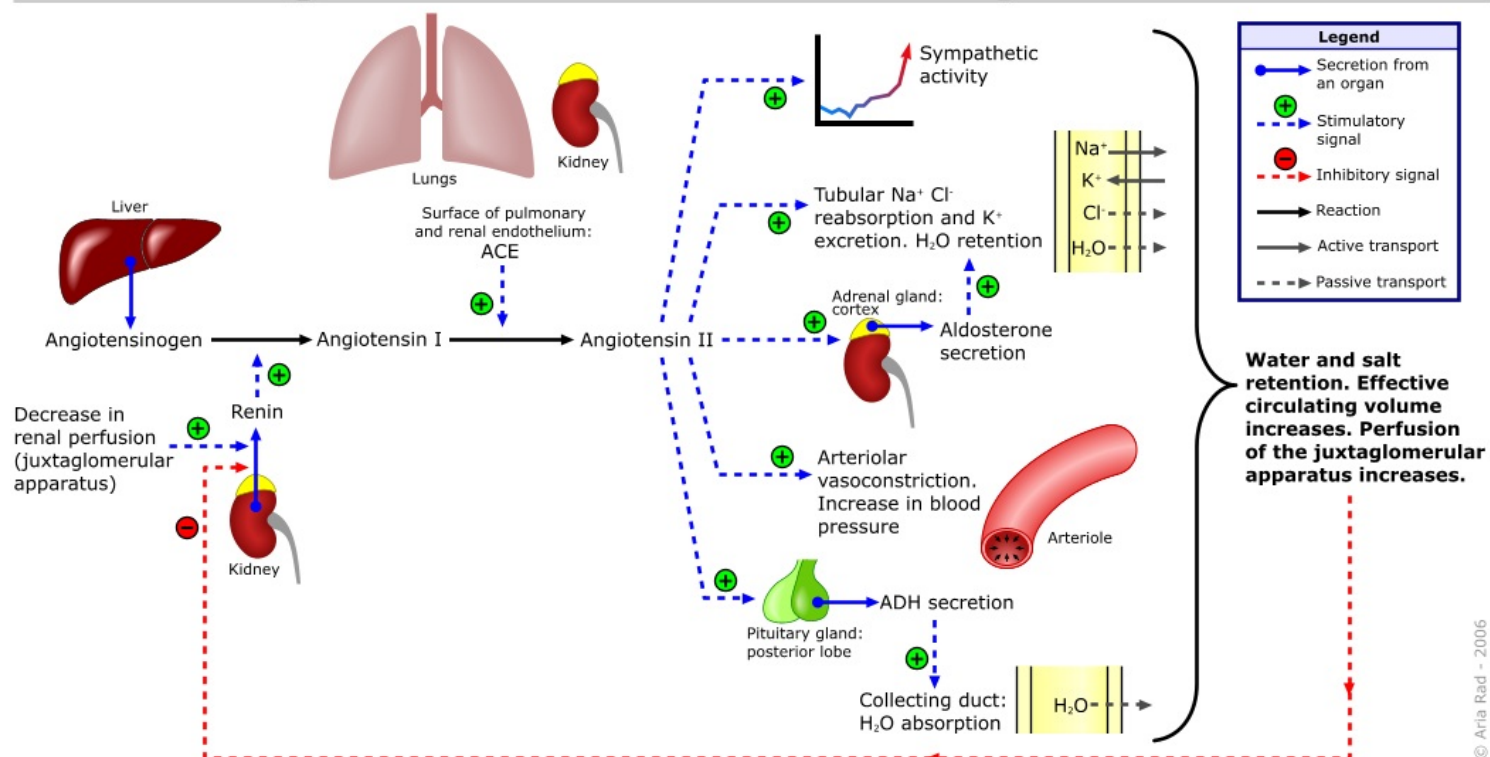
- Angiotensin I

Asp – Arg – Val – Tyr – Ile – His – Pro – Phe – His – Leu

- Angiotensin II

Asp – Arg – Val – Tyr – Ile – His – Pro – Phe

Renin-angiotensin-aldosterone system



Sources

Related Articles

- Juxtaglomerular cells

External Links

- Open Chemistry Database (<https://pubchem.ncbi.nlm.nih.gov/compound/3081372#section=Top>)

Použitá literatura

- KITTAR, Otomar. *Lékařská fyziologie*. 1. edition. Grada, 2011. 790 pp. ISBN 978-80-247-3068-4.

Recommended Literature

- TROJAN, Stanislav – TROJAN, Stanislav. *Lékařská fyziologie*. 4. edition. Grada, 2003. 772 pp. ISBN 80-247-0512-5.
- SILBERNAGL, Stefan – DESPOPOULOS, Agamemnon. *Atlas fyziologie člověka*. 6. edition. Grada, 0000. 0 pp. ISBN 80-247-0630-X.