Adrenaline

Adrenaline (epinephrine, from Greek *epi* "upon", *nephrós* "kidney") is an endogenous catecholamine with combined *α- and β-sympathomimetic activity*. It is a hormone and neurotransmitter produced by the adrenal medulla, moreover it also occurs in the postganglionic sympathetic nerves and some parts of the central nervous system. Its biological role is to prepare the body for stressful situations - fight, escape. It increases the supply of oxygen and glucose to the brain and muscles and also suppresses some less urgent processes.

adrenal gland
derivate of the Amino acid
multiple organs
α and β receptors

Chemical structure and metabolism

Adrenaline is chemically 4-[(1R)-1-hydroxy-2-(methylamino)ethyl]-benzyl alcohol. It is synthesized from tyrosine through L-DOPA, dopamine and norepinephrine.

Effect

- heart – positive inotropic, chronotropic, dromotropic and bathmotropic effect
- bronchi and bronchioles – bronchodilation
- pupil – mydriasis
- vessels – vasoconstriction (α-receptors) and vasodilation (β-receptors)
- digestive tract – increased tone of sphincters
- metabolism – reduces insulin secretion, stimulates glycogenolysis and glycolysis

Links

Related articles

- Norepinephrine
- Catecholamines

External links

- Adrenalin (Czech wikipedia)
- Epinephrine (English wikipedia)

References

- Online Medical Dictionary. *Epinephrine* [online]. [cit. 2011-10-26]. <https://www.online-medical-dictionary.org/omd.asp?q=Epinephrine>.
- Wikipedie - otevřená encyklopedie. *Epinephrine* [online]. [cit. 2011-10-26]. <https://en.wikipedia.org/wiki/Epinephrine>.