

Hamburger effect

Most of the CO₂ produced in the tissues is transported to the lungs in the form of HCO₃⁻. Bicarbonate anion is formed mainly in erythrocytes (to a limited extent also in plasma), where carbonic acid H₂CO₃ is formed from CO₂ and H₂O, which dissociates into bicarbonate anion HCO₃⁻ and hydrogen cation H⁺. Most of the free hydrogen cations react with reduced hemoglobin, while bicarbonate anions are moved from the red blood cell to the plasma in exchange for chloride anions. This exchange is referred to as chloride shift. The entry of chloride anions into erythrocytes is accompanied by the movement of water, which leads to a slight increase in the volume of erythrocytes in venous blood. For this reason, the hematocrit of venous blood is slightly higher than the hematocrit of arterial blood.

Links

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References

- TROJAN, Stanislav. *Lékařská fyziologie*. 4. edition. Grada Publishing, a.s., 2003. 771 pp. ISBN 80-247-0512-5.