

Protein buffering system

Proteins are composed of amino acids connected by peptide bonds. Amino acids are organic acids containing at least one amino (-NH_2) and carboxyl (-COOH) group. Amino acid side chains contain free amine and carboxyl groups.

In the case of an imminent change in the pH of the extracellular fluid, two reactions occur with the free amine and carboxyl groups, which try to avert the impending change in pH:

- Dissociation of the carboxyl (-COOH) group into (-COO^-) and (-H^+);
- (-NH_2) accepts (-H^+) to form (-NH_3^+).

Thanks to these changes, the extracellular environment is buffered.

Links

Related Articles

- Buffers
- Bicarbonate buffer
- phosphate buffer
- Hemoglobin as a buffer
- Acid-base balance
- environmental pH
- Mechanisms of maintenance of acid-base balance

References

- Kittnar, Otomar, et al. *Medical Physiology*. 1st edition. Prague: Grada, 2011. 790 pp. ISBN 978-80-247-3068-4.

Category:Physiology Category:Biochemistry