

2nd seminar

Basic mechanisms in regulation of metabolic processes

1. At the cellular level

- a) activation and inhibition of enzymes by substrates and products (feed-back, feed-forward)
- b) allosteric enzymes
- c) covalent modifications
- d) change of enzyme amount (induction and repression)

2. At the level of whole organism

- a) neuro-humoral regulation
- b) receptors and signaling molecules
 - intracellular
 - membrane (ionic channels, catalytic receptors, G-protein linked receptors)
 - second messengers (cAMP, IP₃, DAG, increase of Ca²⁺ ions in the cytosol)

Literature for next week:

- Practical exercises in biochemistry (Asklepios, 1993) – Chapter 4 - Theoretical part
- shuttles.
- Reactions catalyzed by ion pumps