Lecture 5

2/05/2021

Membrane Transport

Facilitative Diffusion

Potassium Channel KcsA K⁺

Active Transport

Primary (1°)

- Na/K pump (sodium potassium ATPase) -binds three sodium, then binds to ATP, forms complex, then protein gets phosphorylated. E2 conformation changes sodium cations are pumped out, potassium cations bind to the protein, the protein is dephosphorylated
- ABC Transporters (via ATP hydrolysis)- imports vitamin D (hydrolysis upon conformational change)

Secondary (2°)

Bicarbonate /Cl transporter (antiport) Lactose Transporter (symport) Na/Glc symporter

Summary:

- Non mediated or mediated based on the polarity
- In mediated transport there is a facilitatibe diffusion mechanism or an active transport (primary or secondary) transport mechanism.

Catabolism

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Glucose: Role and importance

Glycogenolysis

via Glycogen Phosphorylase

reaches four residues from an $(\alpha 1 \rightarrow 6)$ branch point at nonreducing ends via debranching enzymes

Mechanism: carbonium ion intermediate