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Chapter 10 - Membrane Transport

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Chapter 10 - Membrane Transport

Your email address (**grossoehmen2@mailbox.winthrop.edu**) was recorded when you submitted this form.

Which form of mediated membrane transport requires energy?

- ○ Passive diffusion
- ◉ Active Transport

Which form of transport relies on chemical gradients to drive transport?

- ◉ Passive diffusion
- ○ Active Transport

What is an ionophore?

a molecule that helps pass an ion across a membrane

Ionophores are examples of which type of transport?

- ○ Active
- ○ Nonmediated
- ◉ Passive-Mediated

- Other:

Valinomycin will not facilitate transport of Na+. Why?

Na+ is too small to make a strong interaction.

Porins are made primarily of alpha helices.

- True
- False

KscA forces K+ to shed it's hydration shell. This is the primary way that it prevents the transport of Na+. Noting that Na+ has a smaller diameter than K+, why isn't Na+ transported?

When Na+ binds at the selectivity poor, it does not make as strong contacts with the anionic side chains. This means that the "products" (dehydrated sodium ion) is less stable than the reactants (hydrated ion). There is simply not enough of a driving force to overcome the unfavorable dehydration of Na+.

Which type of ion channel is sensitive to osmotic pressure?

- Ligand gated
- Mechanosensitive
- Signal Gated
- Voltage Gated

Which type of ion channel is sensitive to action potentials?

- Ligand gated
- Mechanosensitive
- Signal Gated
- Voltage Gated

Look closely at Figure 10-6. The K+ equilibrium potential is negative and the Na+ equilibrium potential is positive. What does that tell us about the flow of these two ions?

Na+ comes in and K+ goes out.

Aquaporins are able to prevent hydronium ion transport.

- (●) True
- ( ) False

Which of the following describe the Na-K ATPase ? Select all that apply.

- [ ] Passive Transporter
- [x] Active Transporter
- [ ] Uniporter
- [ ] Symporter
- [x] Antiporter

In membrane transport proteins, kinetics are measured in terms of FLUX.

- (●) True
- ( ) False

ABC transporters couple GTP hydrolysis to membrane transport.

- ( ) True
- (●) False

Consider the glucose transport system in Figure 10-21. Which of the following statements best describes the role of Na. Select all true statements.

- [ ] The concentration of sodium must be kept high inside the cell.
- [ ] The appropriate level of sodium is maintained through active transport of sodium into the cell
- [ ] The sodium-glucose symporter pumps both substrates out of the cell.
- [x] The low cellular concentration of sodium is accomplished by coupling sodium export with ATP hydrolysis.