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Channel proteins

Carrier proteins

Notes attached
with figures.

Additional information on channel proteins & carrier proteins

- Channel proteins are frequently gated (i.e. open or closed).
- Two types of gates
 - Electrically gated channel - opens in response to membrane potentials of a particular magnitude.
 - Several other channels open in the presence of ion to be transported and regulated by stimuli like ~~voltage~~ light, hormones etc.
- Gated channels operate by change in the 3-D shape / conformation of the protein.
- Channels can transport a large quantities of solutes (charged) and ions at a much rapid rate (10^8 ions/sec).
- Carriers are more specific for solutes to be transported. They may transport $10^4 - 10^5$ solutes/sec.

Revision questions:

(5)

1. In which ways is 'simple diffusion' different from 'facilitated diffusion'? Explain.
2. Differentiate between 'channel proteins' and 'carrier proteins'.
3. How do the ion channels function? Name the various stimuli (factors) responsible for the opening and closing of channels,?
4. Diagrammatically represent the exchange of ions/solutes across the membranes.

Important note

Attempt questions 1 and 2

and
mail at sukbirkaorgujral@gmail.com

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FIGURE 3.3 The exchange of ions and solutes across membranes may involve simple diffusion, facilitated diffusion, or active transport.

