



Universidade de São Paulo
Escola de Engenharia de Lorena



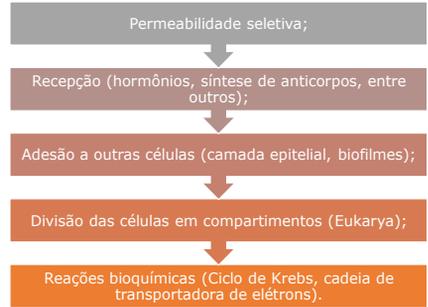
Membrana celular

Aluna PAE: Sabrina Martiniano

Profª: Tatiane da Silva

Lorena
2016

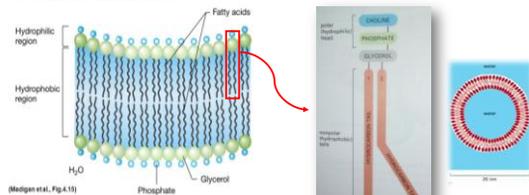
Funções das membranas



Composição básica

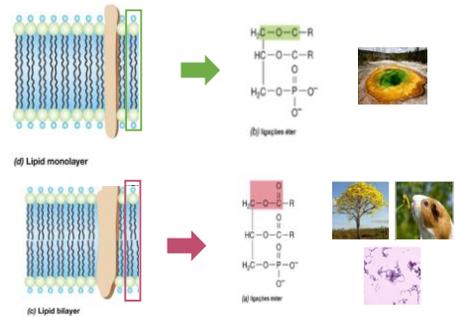
Bicamada de fosfolípidios:

• componente chave das membranas



Propriedade anfipática

Membrana plasmática de Archaea



Fluidez da membrana

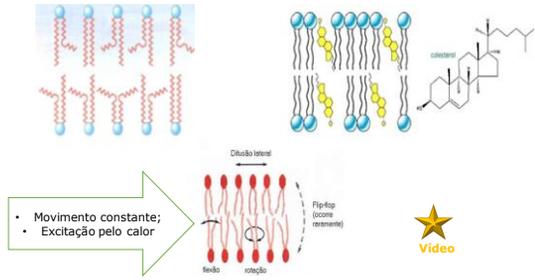
Organizada e rígida x desorganizada e fluida



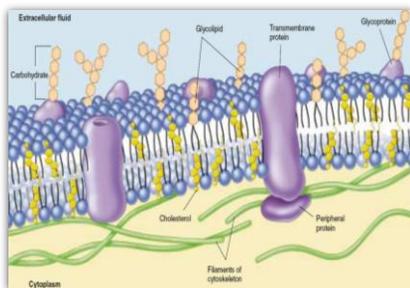
Lipídeos da membrana

Porção fluida da bicamada fosfolipídica

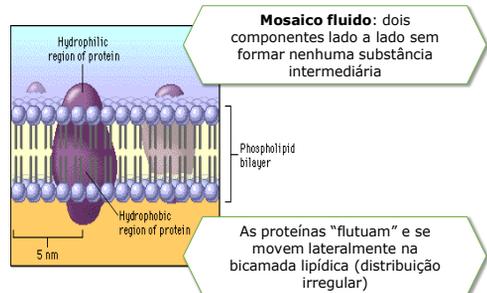
Colesterol associados



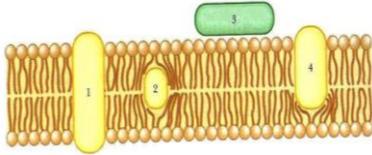
Estrutura da membrana



Modelo do Mosaico Fluido



Proteínas de membrana



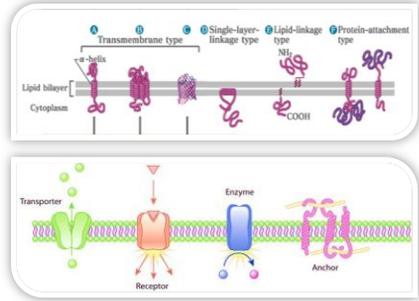
Proteínas integrais

- Imersas na bicamada lipídica;
- Difícil remoção (detergentes, sonicação) → desnaturação;
- **Proteínas transportadoras.**

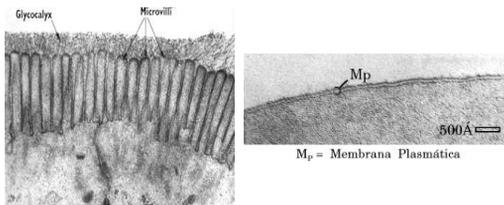
Proteínas periféricas

- Situa-se nas extremidades;
- Fácil remoção;
- **Proteínas receptoras.**

Proteínas de membrana

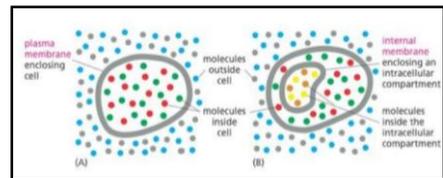


Microscopia eletrônica

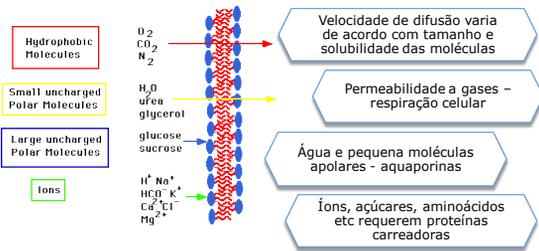


Barreira seletiva

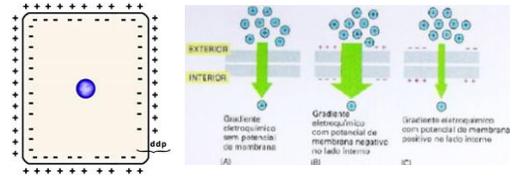
Bacteria, Eukarya e Archaea



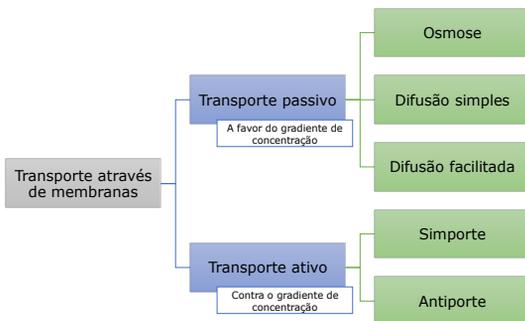
Barreira seletiva



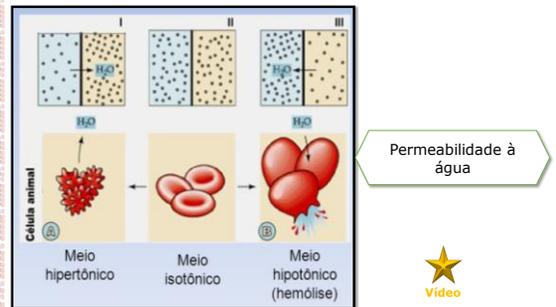
Potencial de membrana



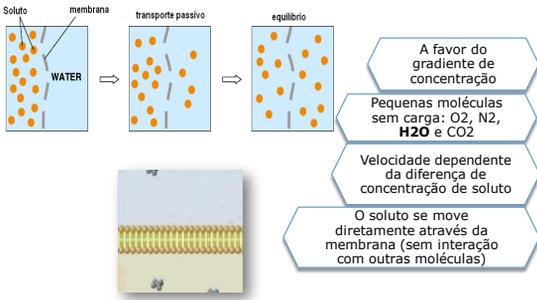
Transporte através de membranas



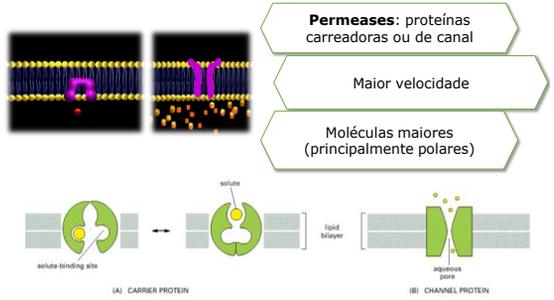
Osmose



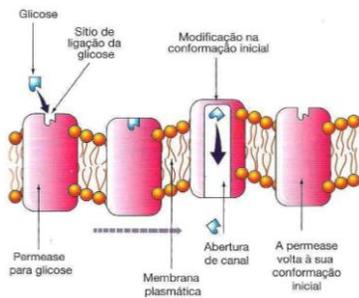
Difusão simples



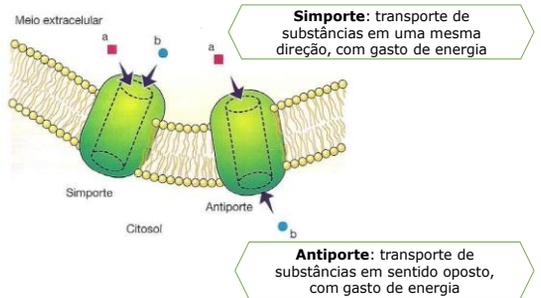
Difusão facilitada



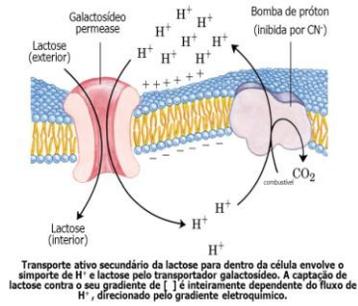
Proteína carreadora: transporte de glicose



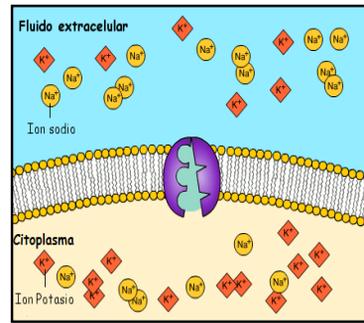
Transporte ativo



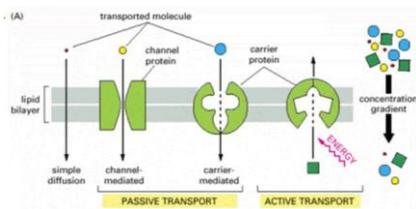
Simporte: transporte de lactose



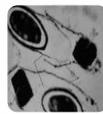
Antiporte: bomba de sódio e potássio



Transportes



Ação de bioinseticida



Toxina de *Bacillus thuringiensis*
• Endotoxinas – cristais proteicos (CRY)



Combate a lepidópteras

- Ingestão e solubilização no intestino médio;
- União das CRY a receptores de membrana no intestino;
- Formação de poros e desequilíbrio osmótico – perda da integridade da membrana;
- Perda de apetite, paralisia e morte.

