

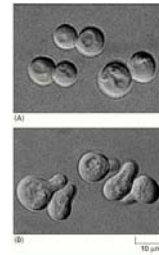
Programa de Bachillerato
2010



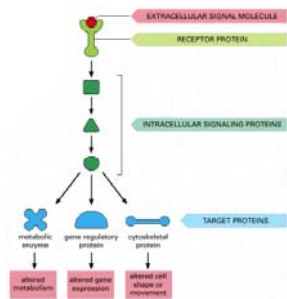
Receptores de membrana e intracelulares

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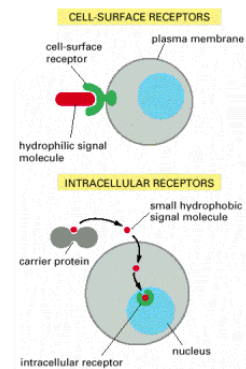
Comunicación intercelular



Signaling pathway activated by an extracellular signal molecule



Cell-surface receptor or intracellular receptor



Forms of intracellular signaling

(A) **CONTACT-DEPENDENT**

signaling cell target cell

membrane-bound signal molecule

(B) **PARACRINE**

signaling cell target cells

local mediator

(C) **SYNAPTIC**

neuron synapse target cell

axon

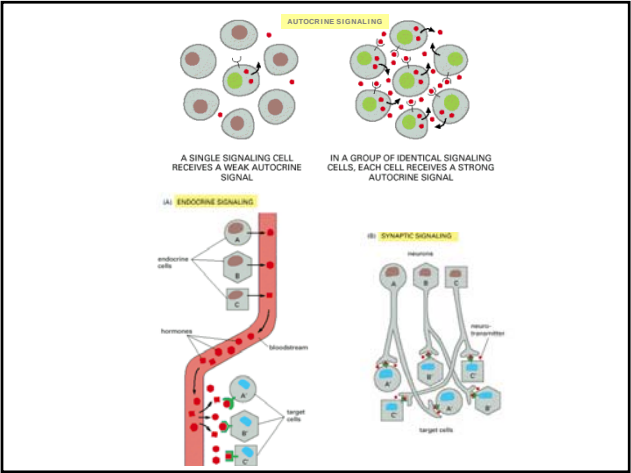
cell body neurotransmitter

(D) **ENDOCRINE**

endocrine cell receptor target cell

hormone

bloodstream target cell



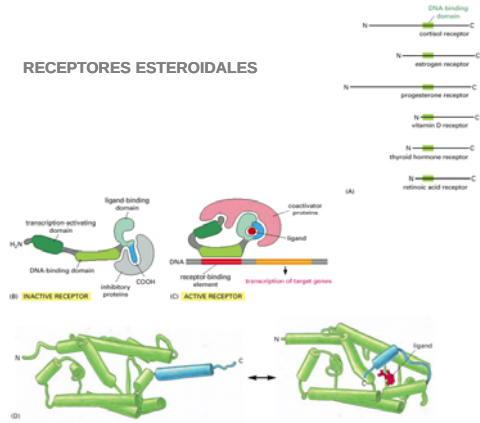
Signaling via gap junction

Signaling molecules that bind to nuclear receptor

The image displays six chemical structures of signaling molecules that bind to nuclear receptors, arranged in two rows. Each structure is highlighted with a pink label below it.

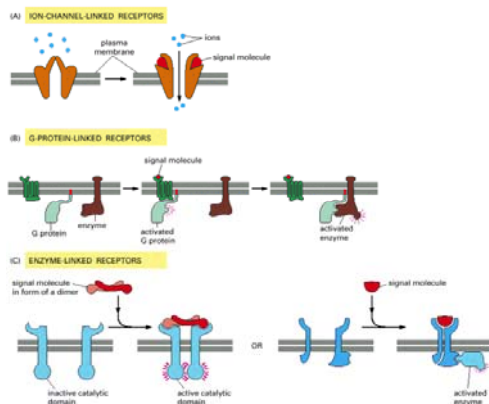
- estradiol**: A steroid molecule with four fused rings, a hydroxyl group at C3, and a side chain at C17 consisting of a hydroxyl group and a methyl group.
- estradiol**: A steroid molecule with four fused rings, a hydroxyl group at C3, and a side chain at C17 consisting of a hydroxyl group and a methyl group.
- testosterone**: A steroid molecule with four fused rings, a ketone group at C3, and a side chain at C17 consisting of a hydroxyl group and a methyl group.
- vitamin D₃**: A steroid molecule with four fused rings, a hydroxyl group at C3, and a side chain at C17 consisting of a hydroxyl group and a methyl group.
- thyroxine**: A thyroid hormone consisting of two benzene rings connected by an ether bridge, with iodine atoms at the 3 and 5 positions and a side chain at the 4 position consisting of a methylene group and a carboxylate group.
- retinoic acid**: A retinoid molecule consisting of a six-membered ring with a methyl group and a side chain consisting of a methyl group and a carboxylate group.

RECEPTORES ESTEROIDALES

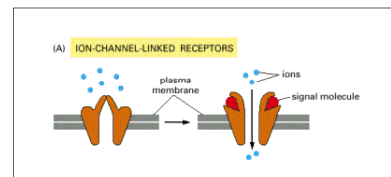


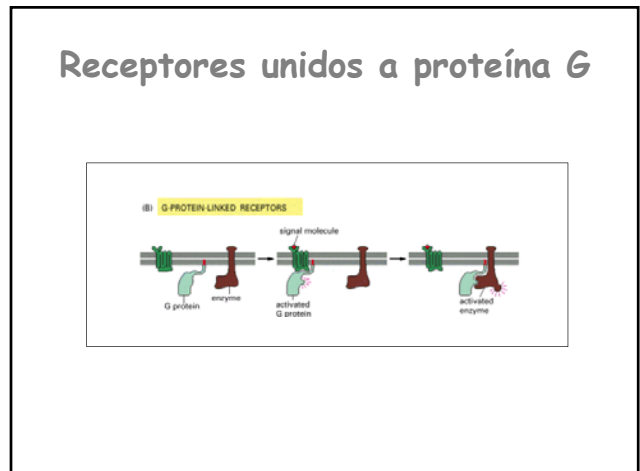
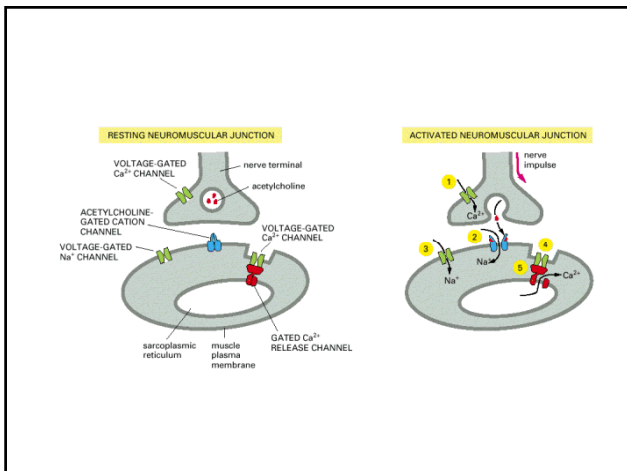
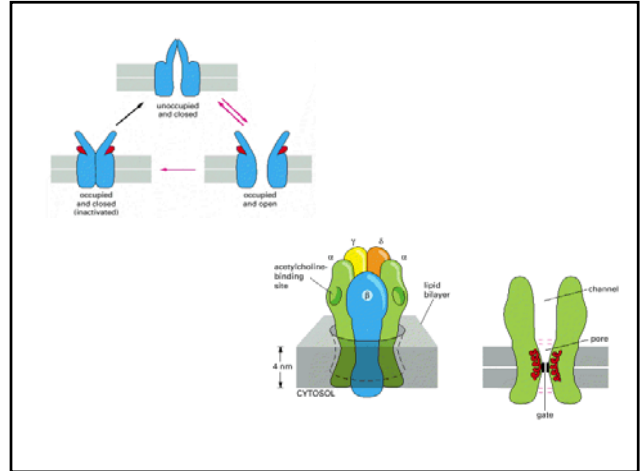
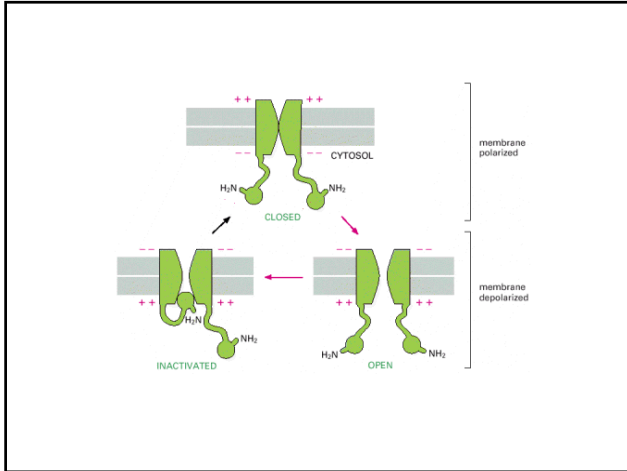
Clases de proteínas tipo receptores de superficie celular

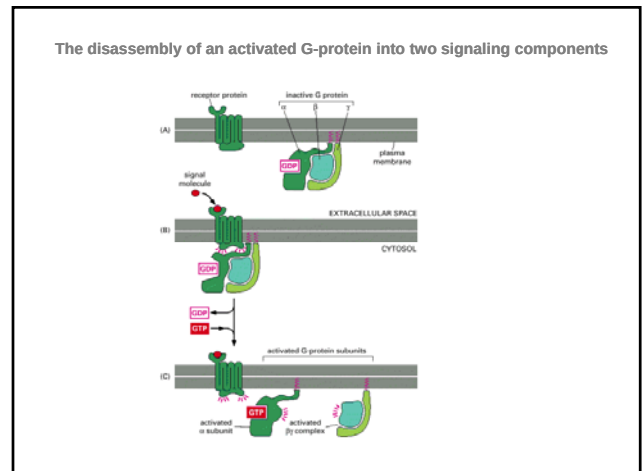
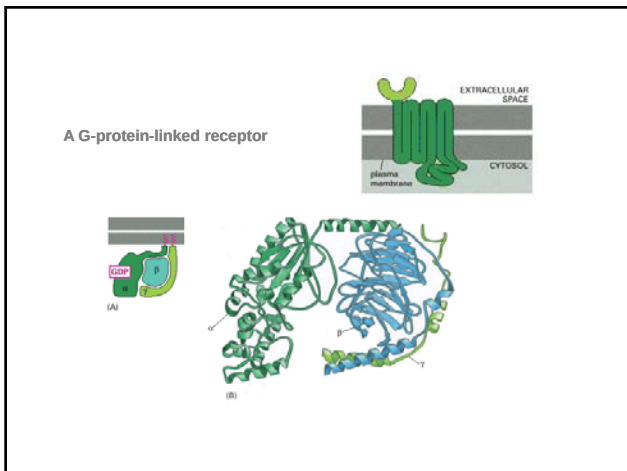
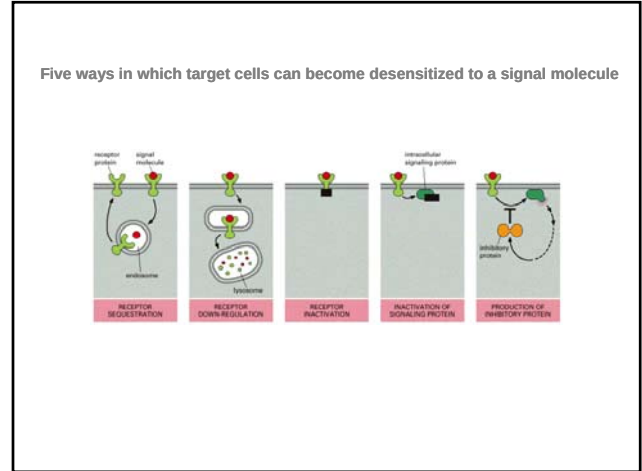
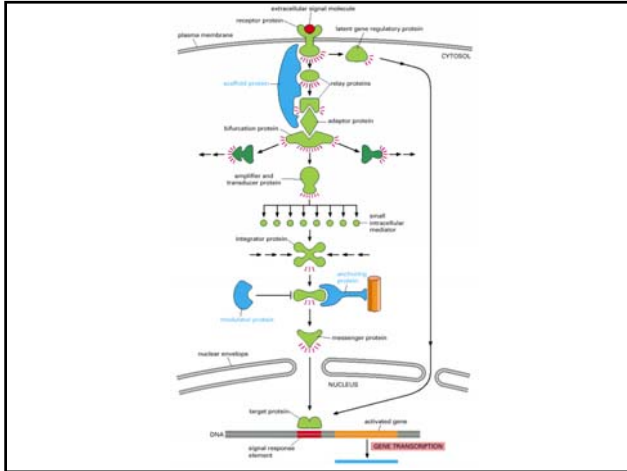
- Receptores unidos a canales iónicos
- Receptores unidos a proteína G
- Receptores tipo enzima

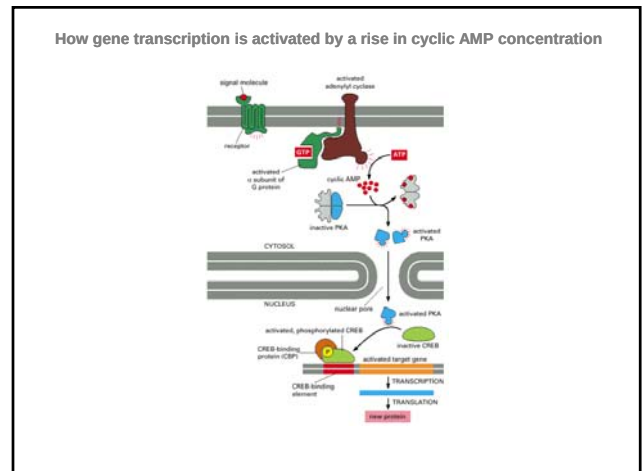
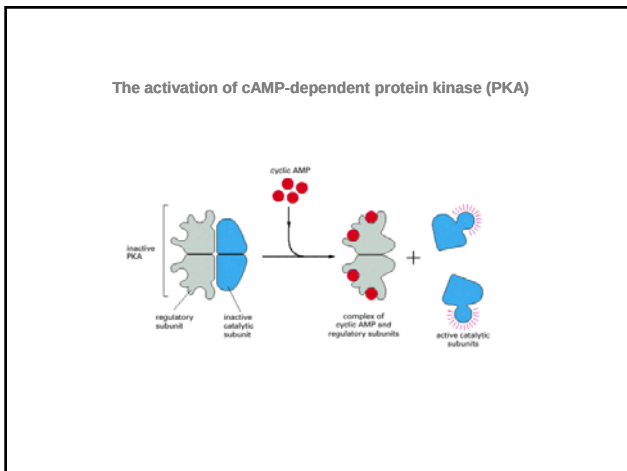
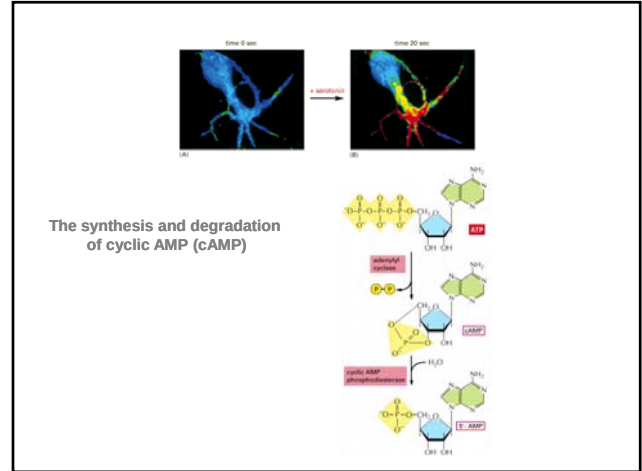
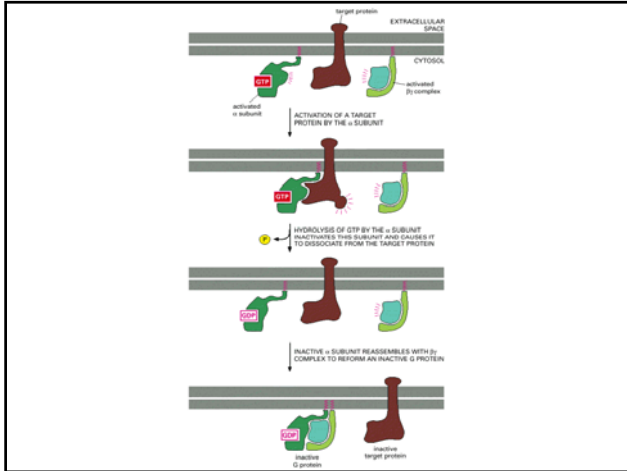


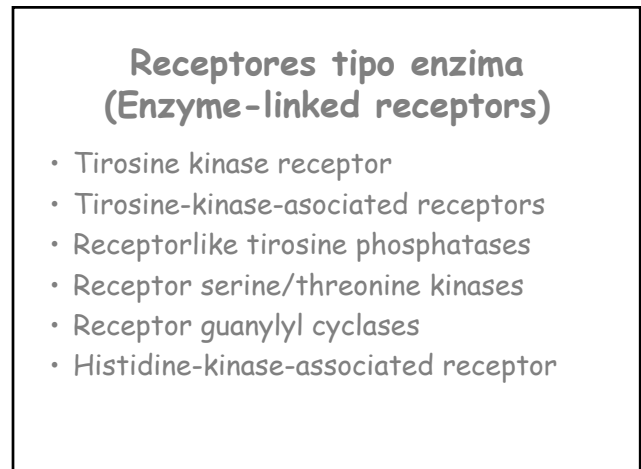
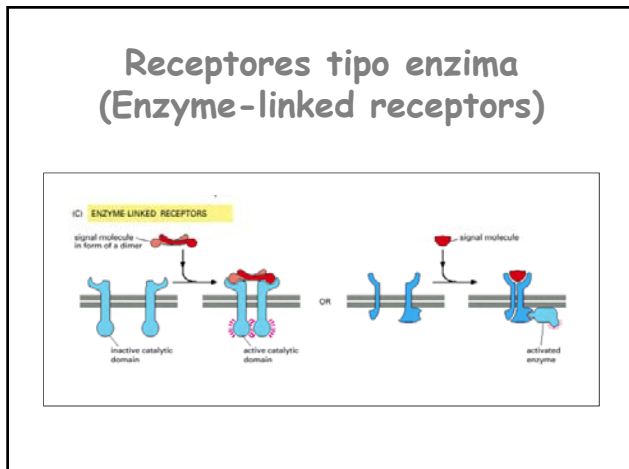
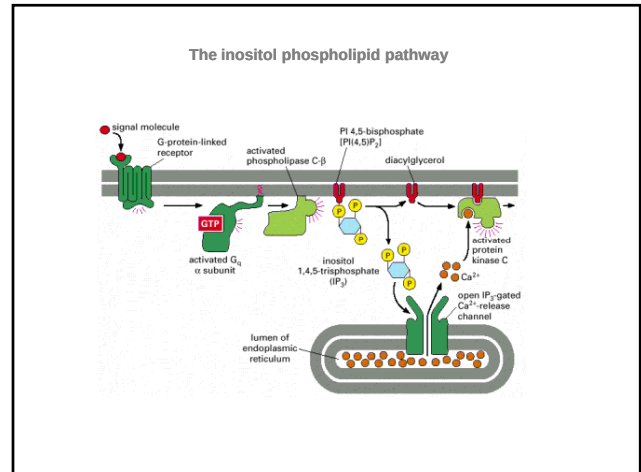
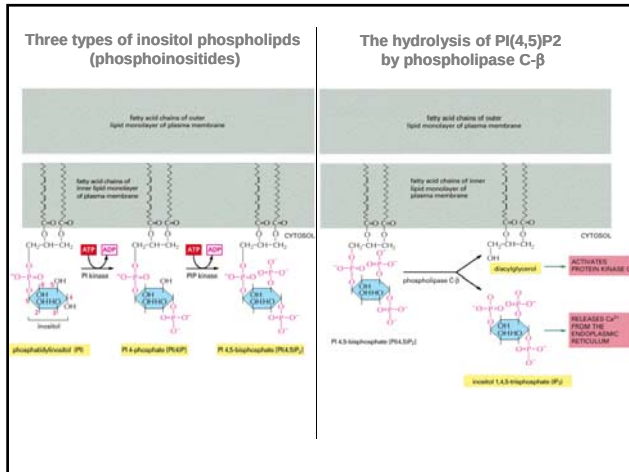
Receptores unidos a canales iónicos



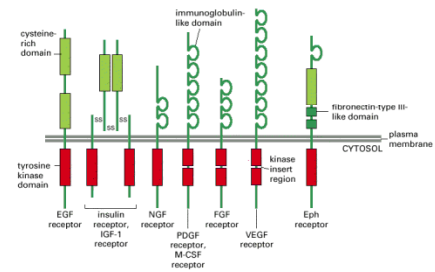




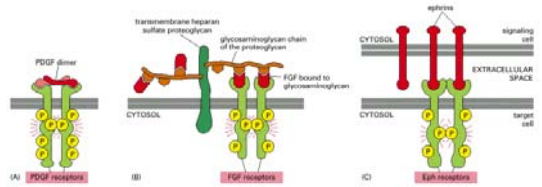




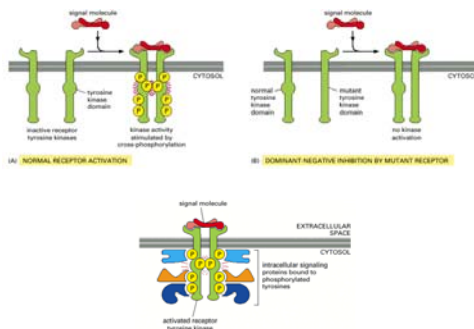
SEVEN SUBFAMILIES OF RECEPTOR TYROSINE KINASE



Three ways in which signaling proteins can cross-link receptor chains



Tyrosine Kinase



FIVE PARALLEL INTRACELLULAR SIGNALING PATHWAYS ACTIVATED BY G-PROTEIN-LINKED RECEPTOR, RECEPTOR TYROSINE KINASES OR BOTH

