

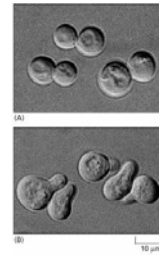
Programa de Bachillerato
2010



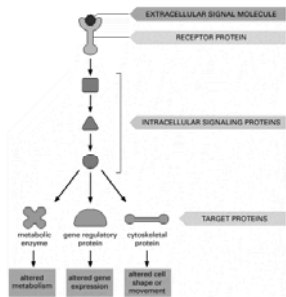
Receptores de membrana e intracelulares

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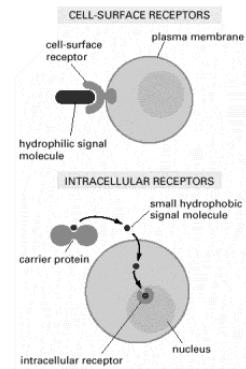
Comunicación intercelular



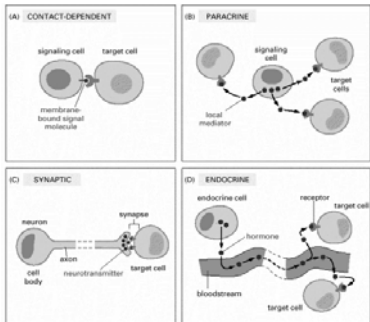
Signaling pathway activated by an extracellular signal molecule



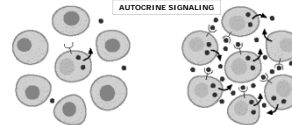
Cell-surface receptor or intracellular receptor



Forms of intracellular signaling



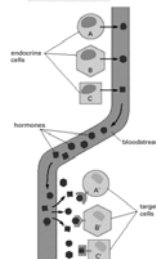
AUTOCRINE SIGNALING



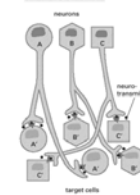
A SINGLE SIGNALING CELL RECEIVES A WEAK AUTOCRINE SIGNAL.

IN A GROUP OF IDENTICAL SIGNALING CELLS, EACH CELL RECEIVES A STRONG AUTOCRINE SIGNAL.

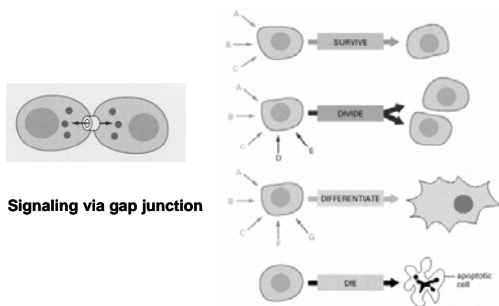
(A) ENDOCRINE SIGNALING



(B) SYNAPTIC SIGNALING

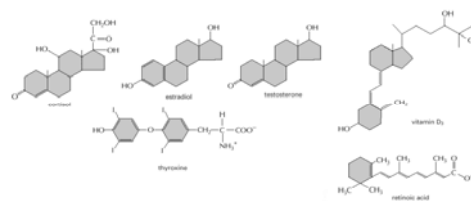


Multiple extracellular signals

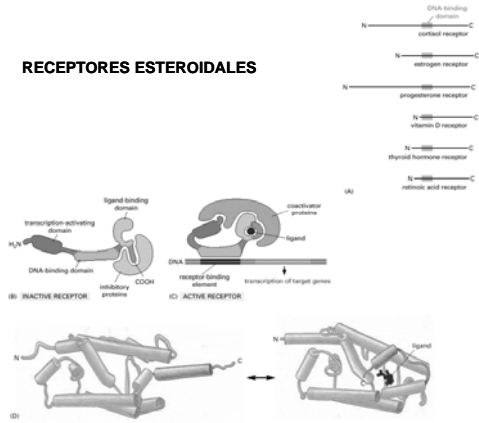


Signaling via gap junction

Signaling molecules that bind to nuclear receptor



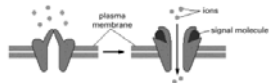
RECEPTORES ESTEROIDALES



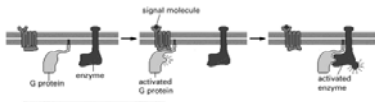
Clases de proteínas tipo receptores de superficie celular

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

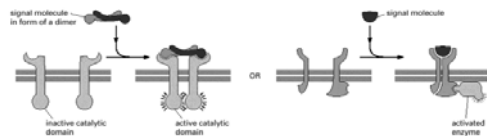
(A) ION-CHANNEL-LINKED RECEPTORS



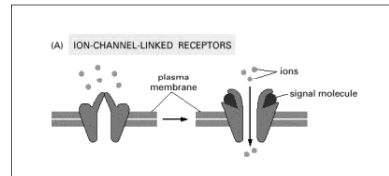
(B) G-PROTEIN LINKED RECEPTORS

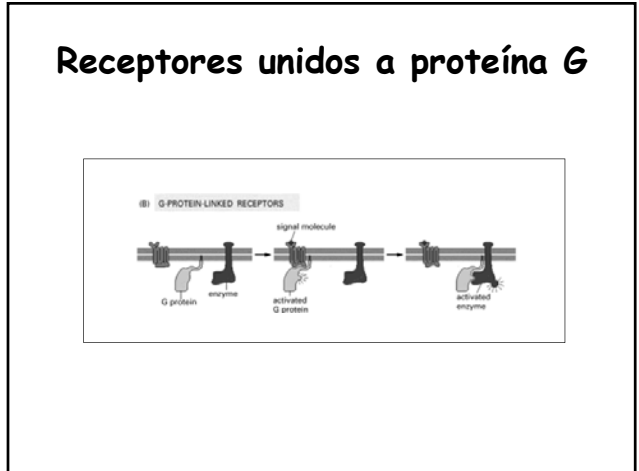
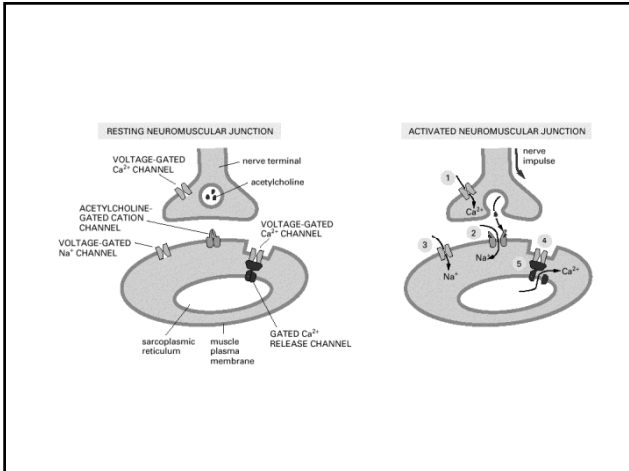
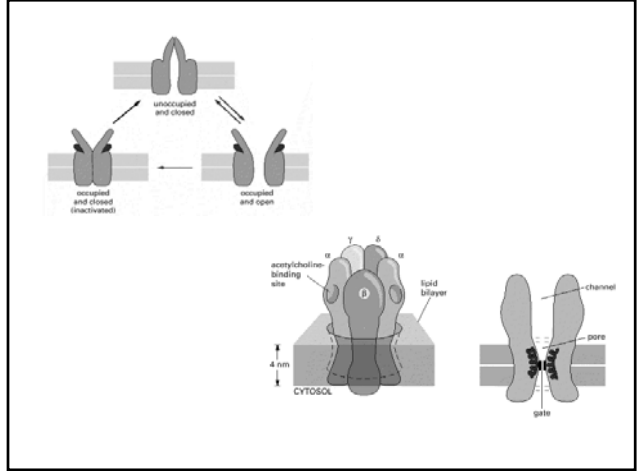
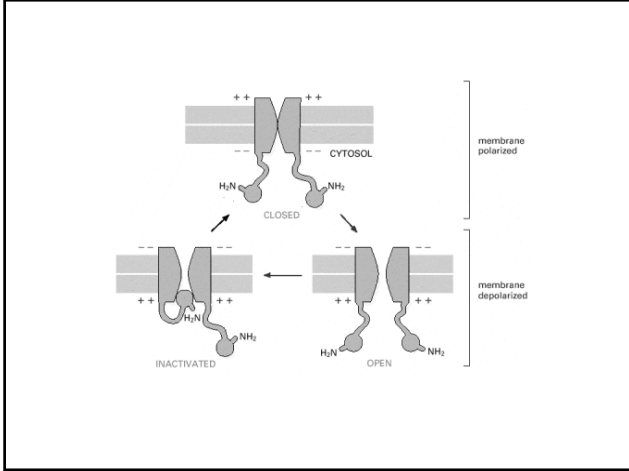


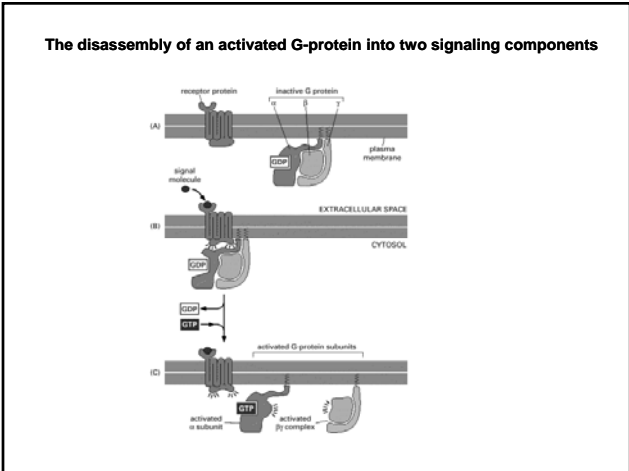
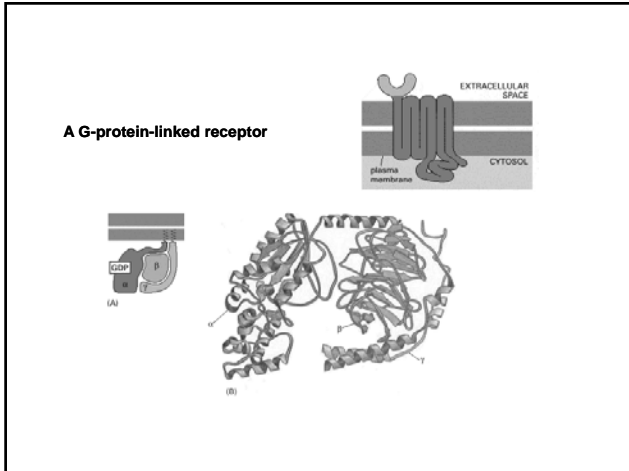
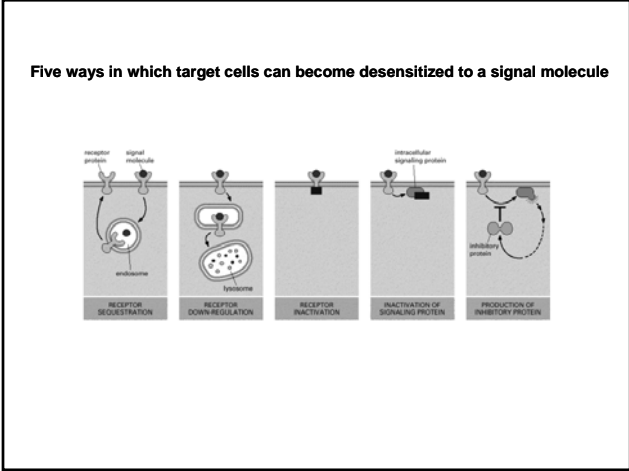
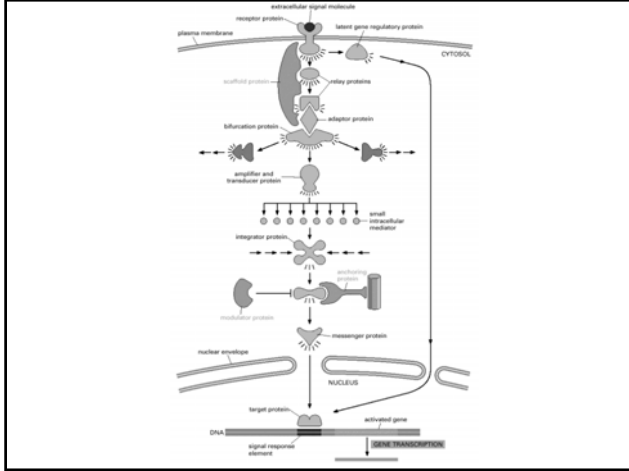
(C) ENZYME LINKED RECEPTORS

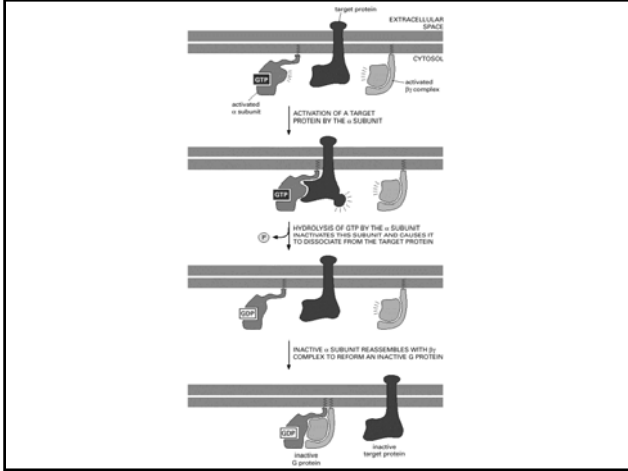


Receptores unidos a canales iónicos









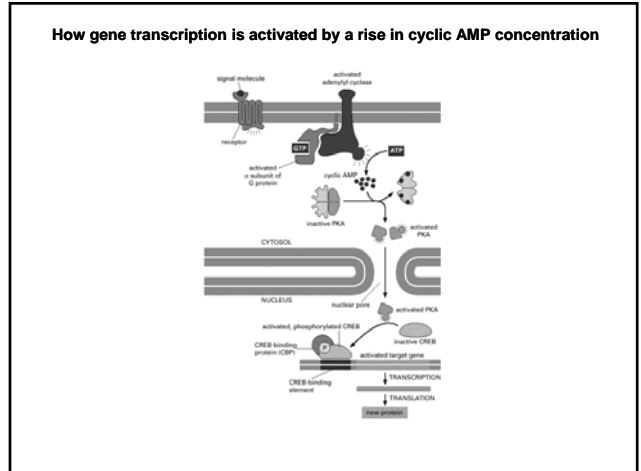
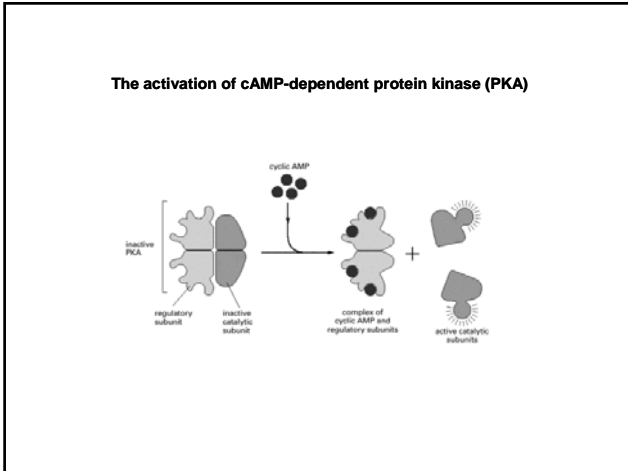
time 0 min
time 20 min

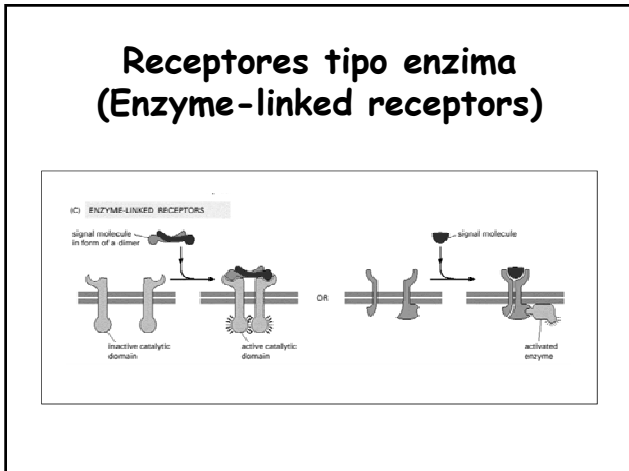
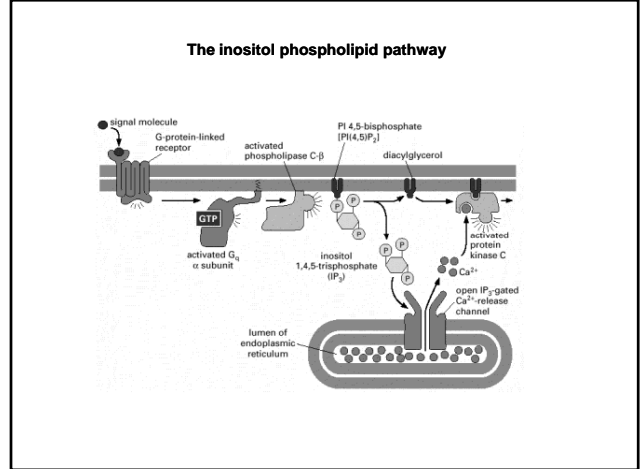
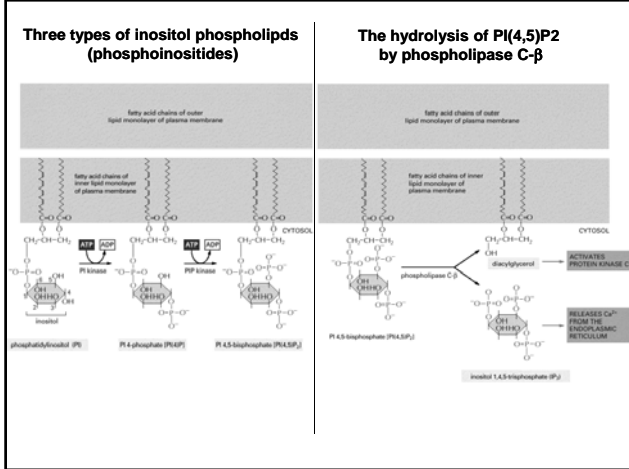
10⁻⁶ M histamine

(A) (B)

The synthesis and degradation of cyclic AMP (cAMP)

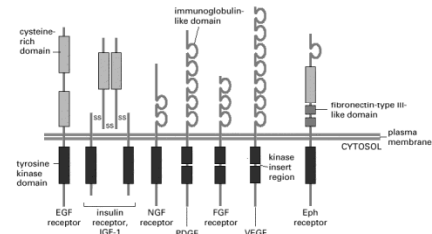
ATP
adenylyl cyclase
cyclic AMP (adenosine 3',5'-cyclic phosphate)
phosphodiesterase
AMP



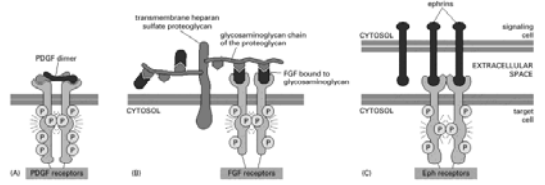


- ### Receptores tipo enzima (Enzyme-linked receptors)
- Tirosine kinase receptor
 - Tirosine-kinase-associated receptors
 - Receptorlike tirosine fosfatases
 - Receptor serine/threonine kinases
 - Receptor guanilyl cyclases
 - Histidine-kinase-associated receptor

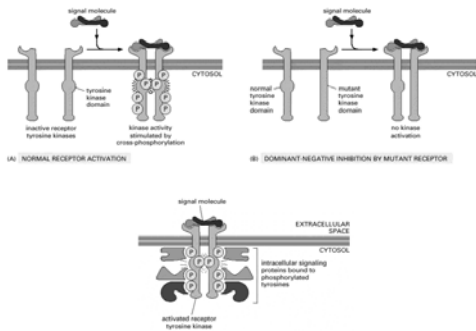
SEVEN SUBFAMILIES OF RECEPTOR TYROSINE KINASE



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

