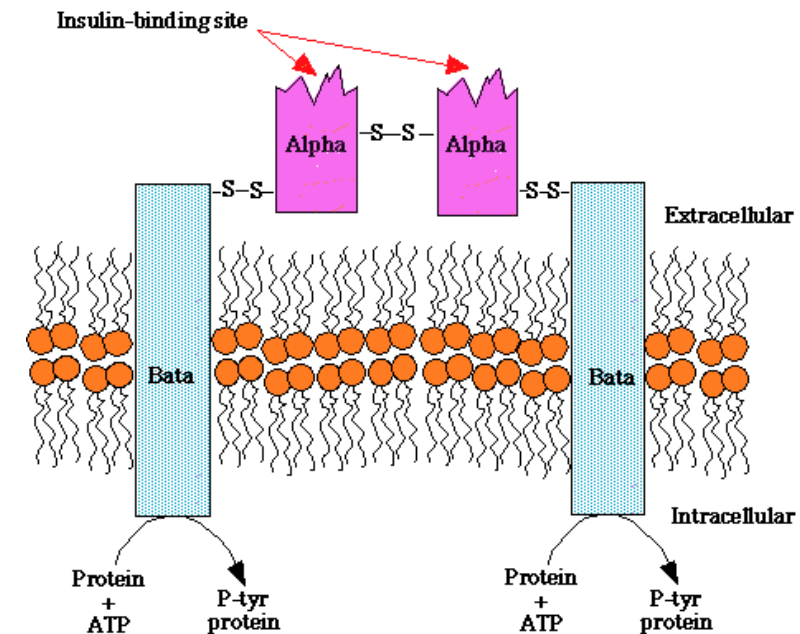
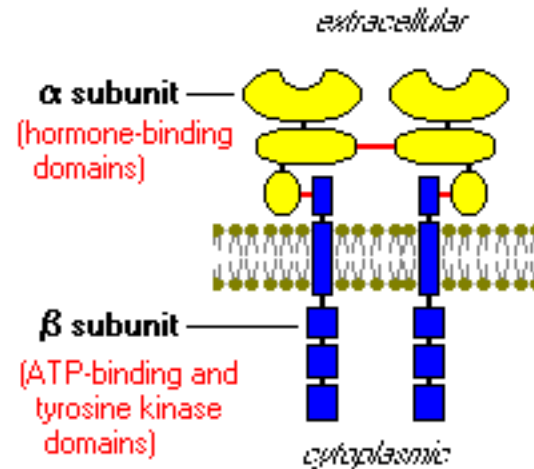




Tyrosine Kinase & other Hormones

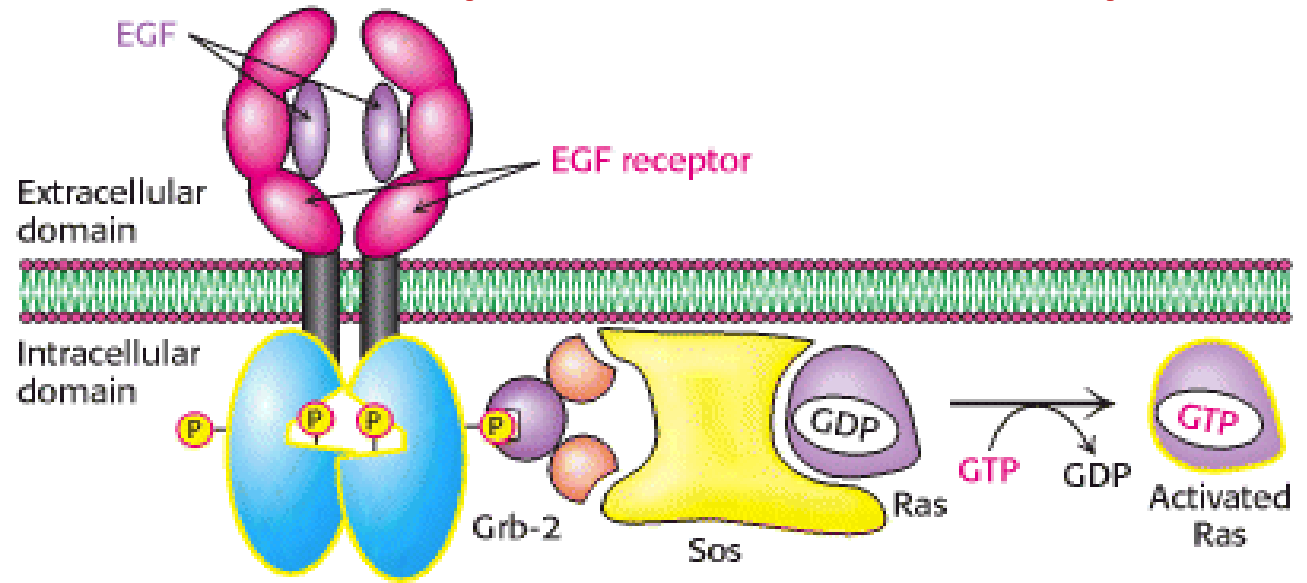
- Insulin Receptor
- Tetramer (2^{α} ; 2^{β}), dimer ($2^{\alpha\beta}$ pairs)
- Disulfide bridges
- Insulin Binding → Activation of the Kinase





Ras is a member of small G proteins family

- Monomeric
- 2 forms: $\text{GDP} \leftrightarrow \text{GTP}$
- Smaller (1 subunit)
- GTPase activity
- Many similarities in structure and mechanism with $\text{G}\alpha$
- Include several groups or subfamilies
- Major role in growth, differentiation, cellular transport, motility etc...





Impaired GTP_{ase} activity can lead to cancer in human

- Mammalian cells contain 3 Ras proteins

Mutation →

Loss of ability to hydrolyze GTP →

Ras is locked in “ON” position →

continuous stimulation of growth