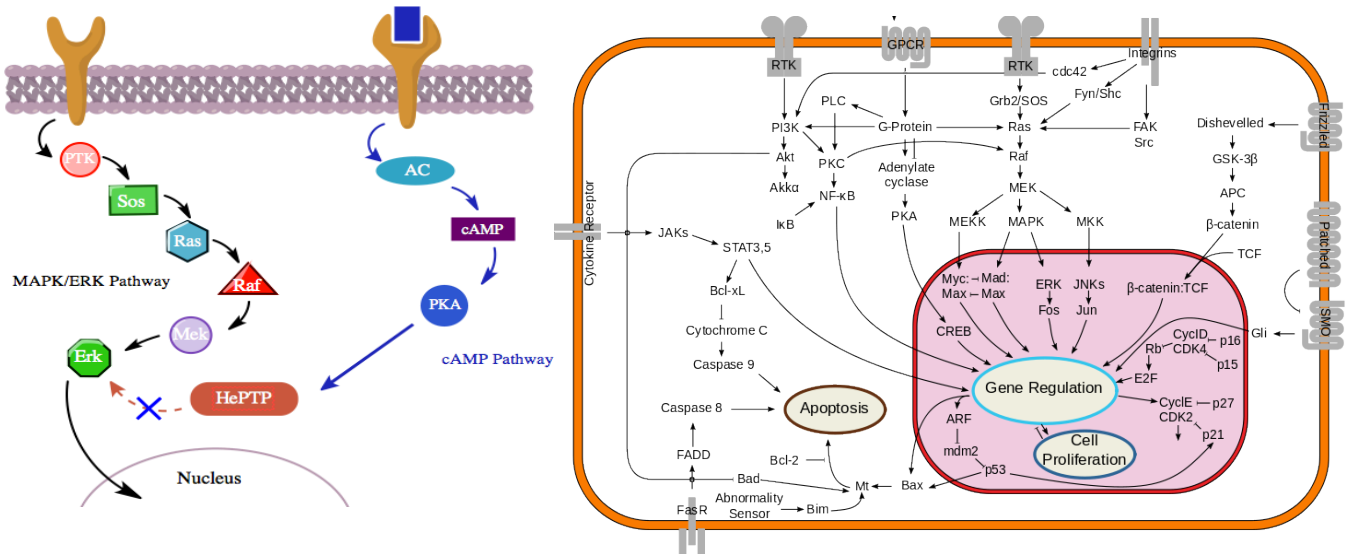
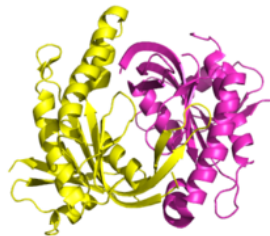


CONCEPT: BIOSIGNALING

- Crosstalk – signaling pathways interact with each other to modify cellular response



- Guanylyl cyclase – receptor enzyme that converts GTP to cGMP in response to ligand binding
 - Mostly membrane bound receptors, but one cytosolic guanylyl cyclase is known, and activated by NO
 - cGMP stimulates PKG cascade
 - NO, derived from arginine and O_2 , causes smooth muscle contraction
 - Viagra inhibits cGMP PDE, and cGMP stimulates smooth muscle contraction of vein leaving the penis
 - Asthma is an immune response that causes smooth muscle contraction in bronchia
 - Use β -adrenergic agonist raising cAMP levels, does the opposite of cGMP, relaxing smooth muscle



- Integrin (adhesion receptor) binds cytoskeleton and collagen in ECM
 - When these proteins change position, cells change shape and form
- While most receptors are found on the membrane, steroid hormone receptors are located inside the cell
 - Generally steroid receptors act as transcription factors

