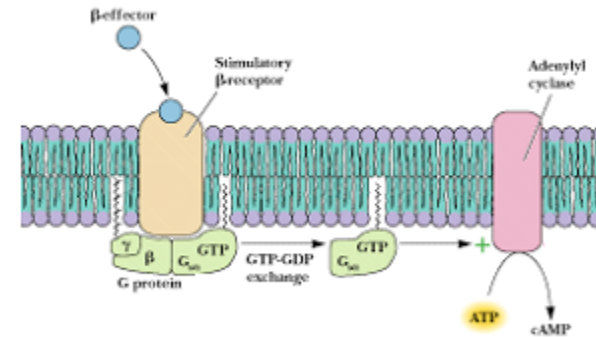
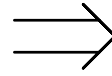


Hormone binds GPCR
dissociating $G\alpha$ -GTP **I.**



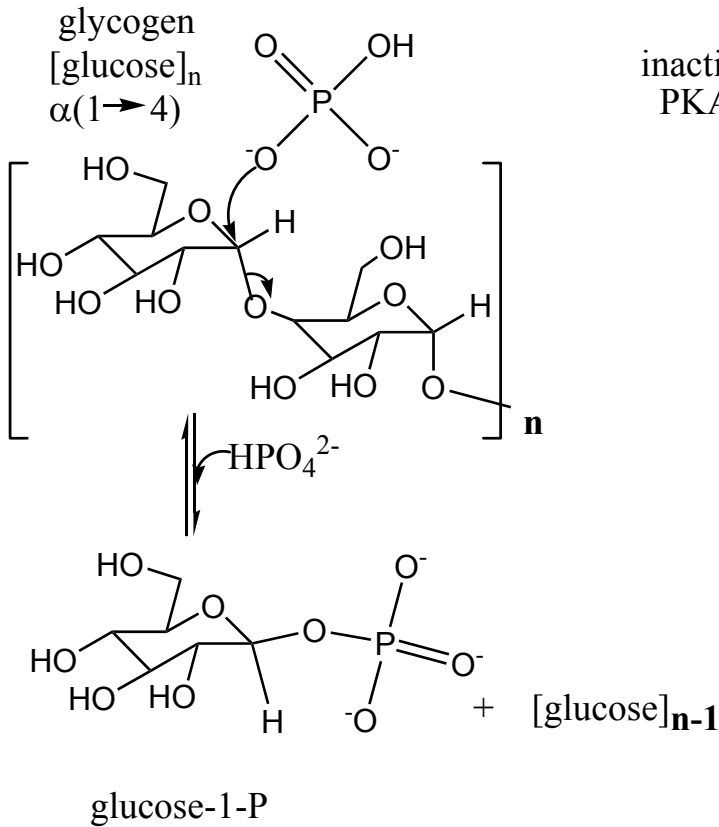
inactive adenylyl cyclase \rightleftharpoons active adenylyl cyclase

II.

ATP $\xrightarrow{\text{active adenylyl cyclase}}$ cAMP $\xrightarrow{\text{phosphodiesterase}}$ AMP

inactive PKA \rightleftharpoons active PKA **III.**

GP reaction



inactive phosphorlase kinase $\xrightleftharpoons[\text{phosphatase}]{\text{ATP} \rightarrow \text{ADP}}$ active phosphorlase kinase **IV.**

inactive glycogen phosphorylase *b* $\xrightleftharpoons[\text{phosphoprotein phosphatase 1}]{\text{ATP} \rightarrow \text{ADP}, \text{Pi}}$ active glycogen phosphorylase *a* **V.**

H_2O