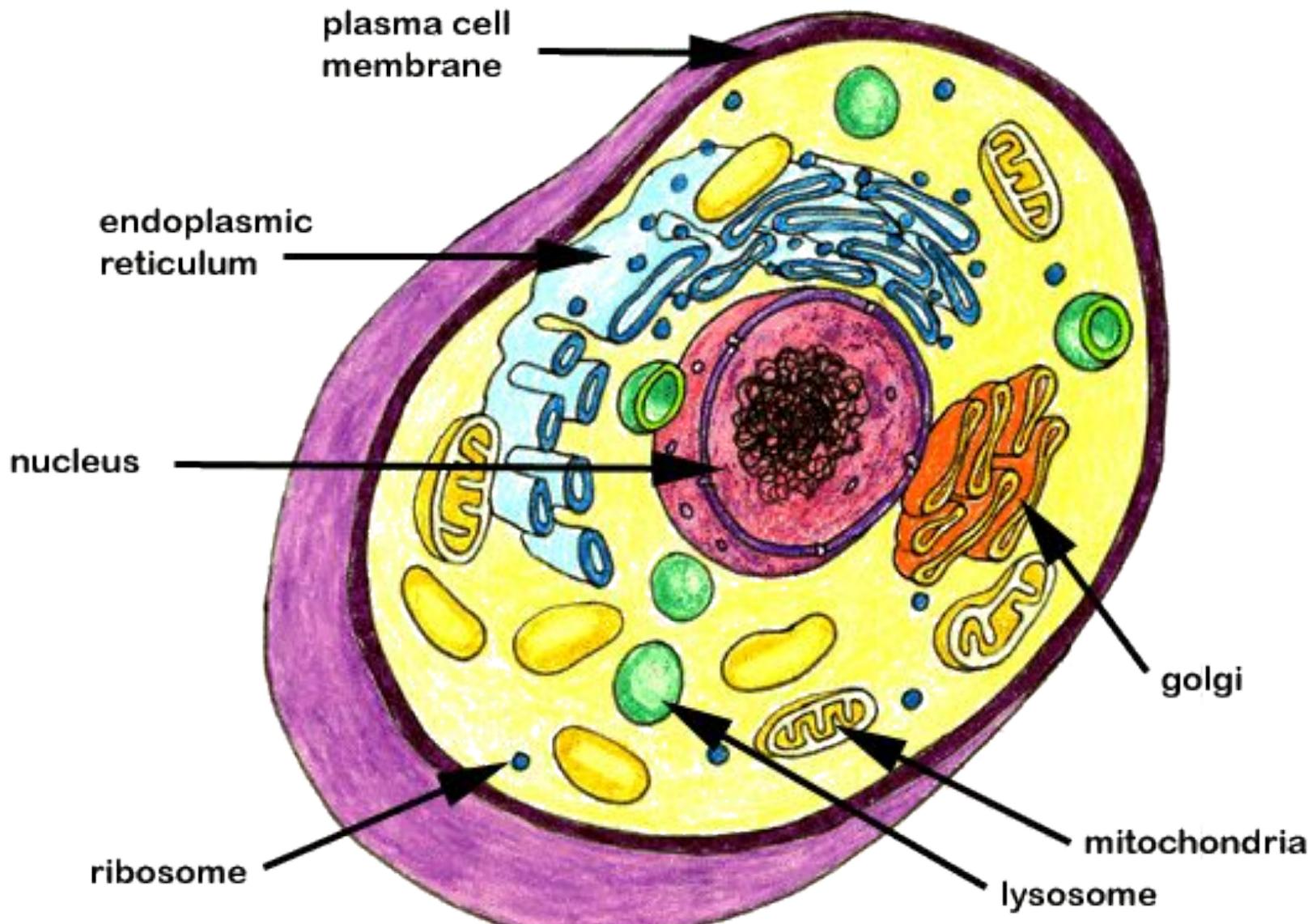
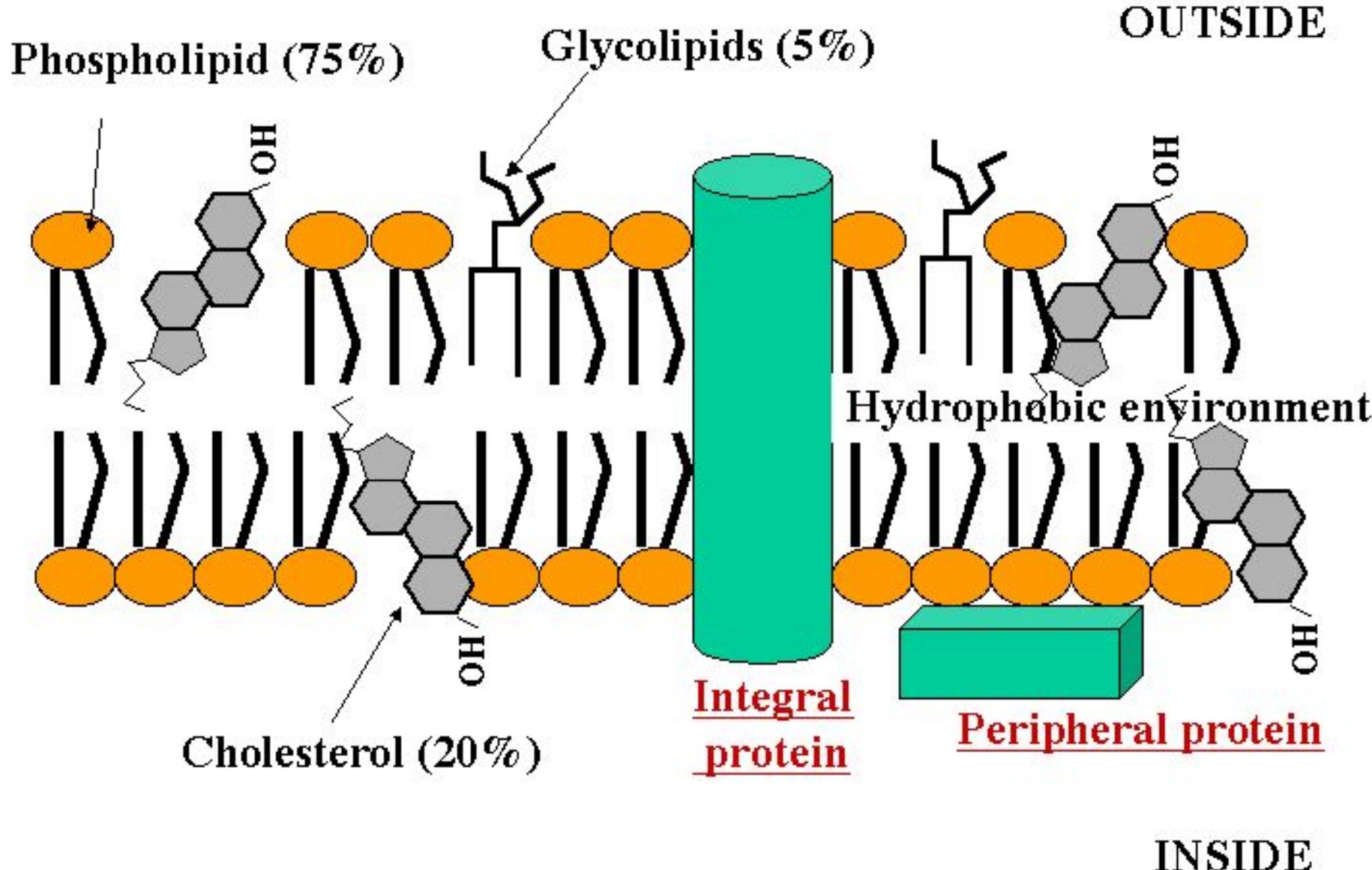


Structure and Functions of Biomembranes

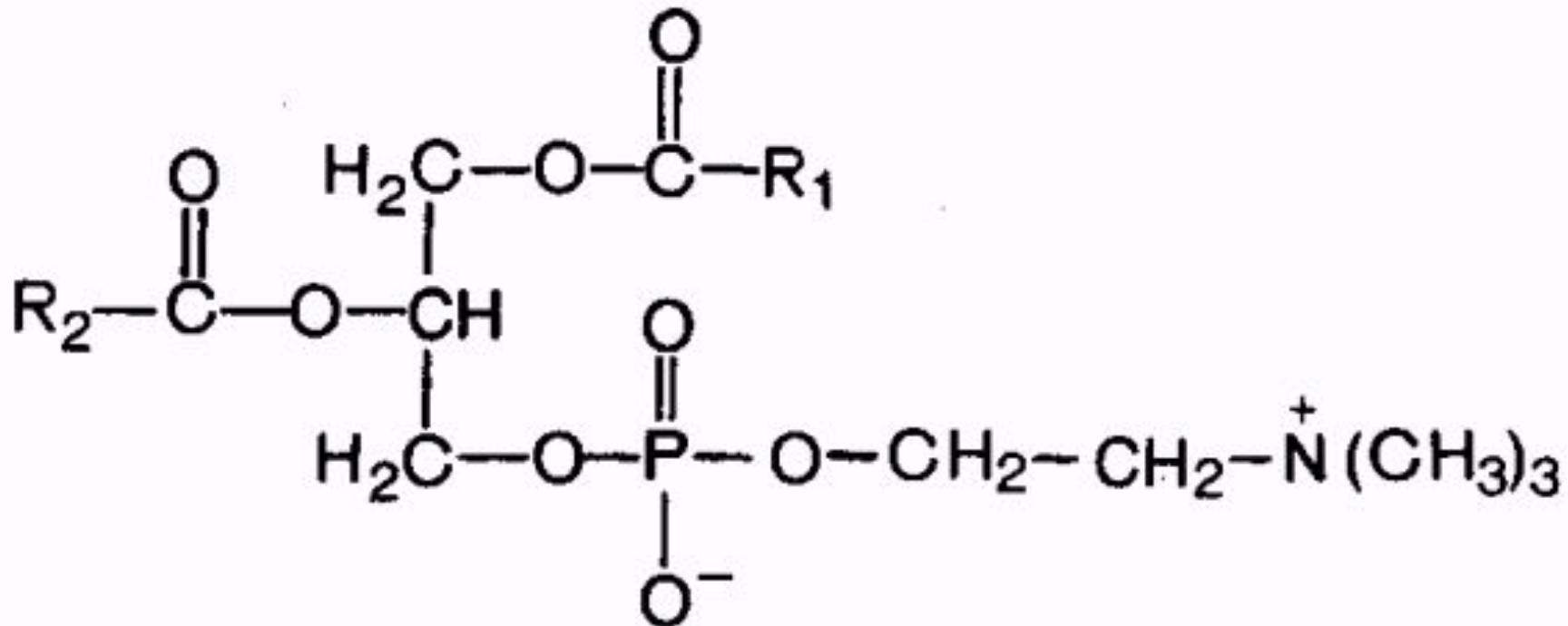
Cell structure



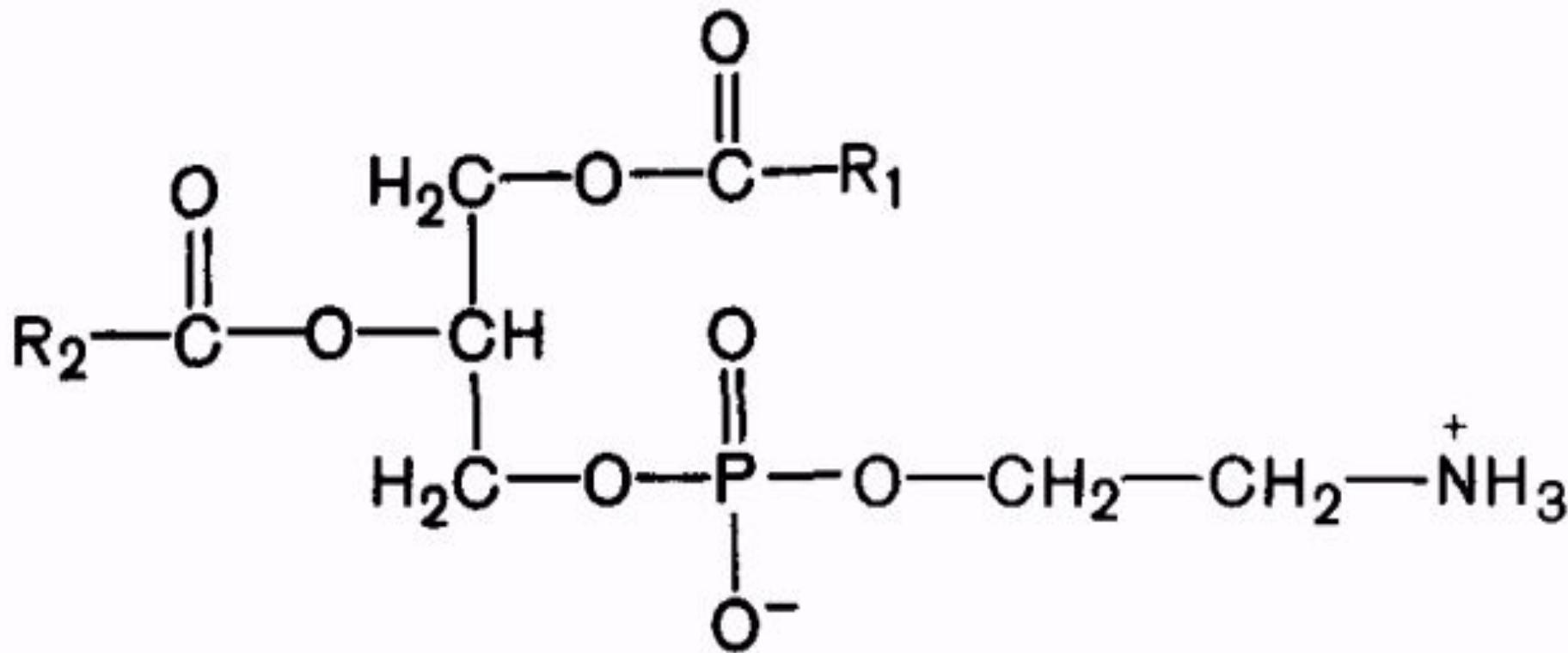
Plasma membrane



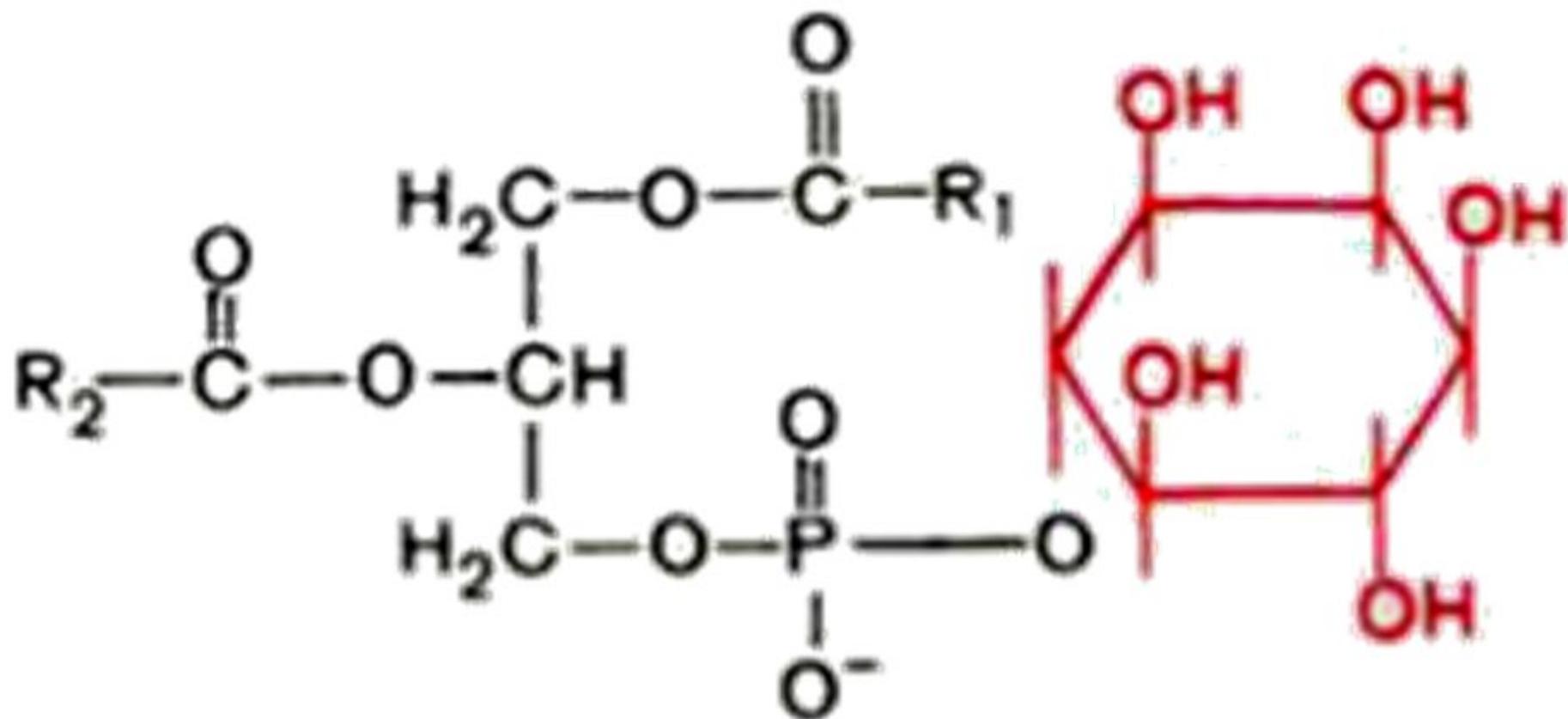
Phospholipid phosphatidylcholine



Phospholipid phosphatidylethanolamine

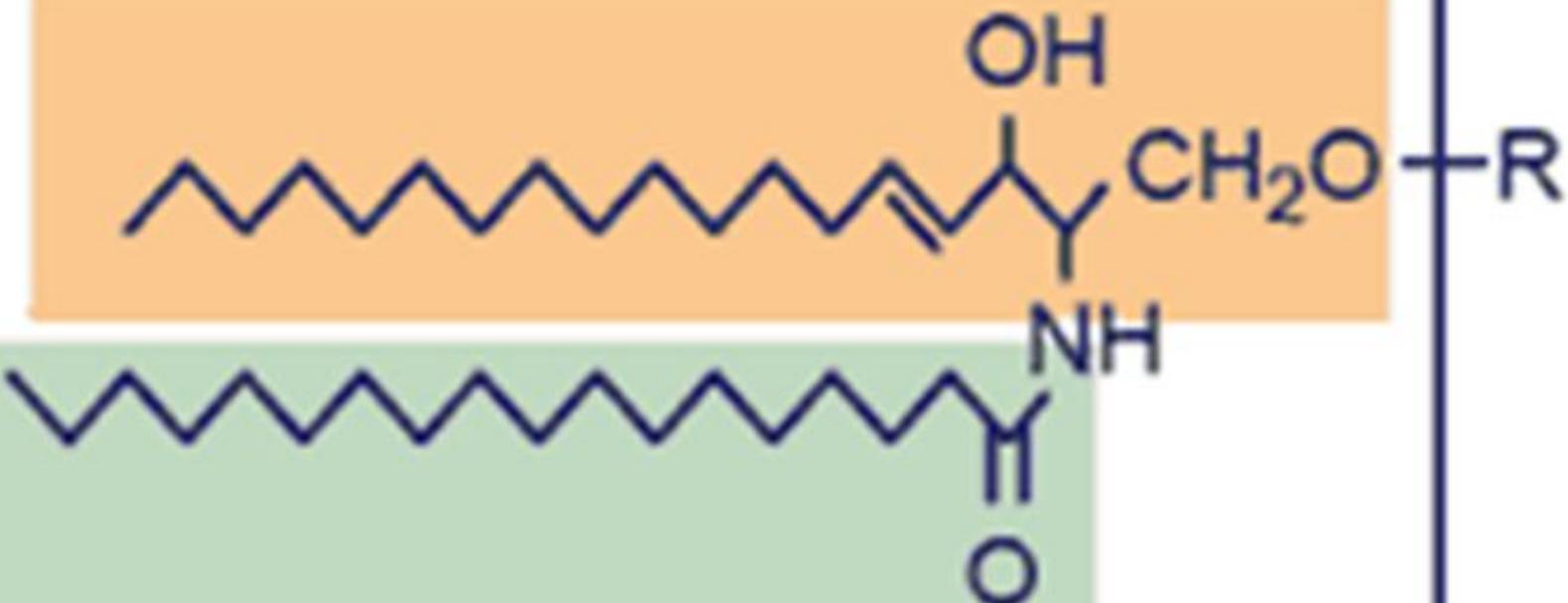


Phospholipid phosphatidylinositol



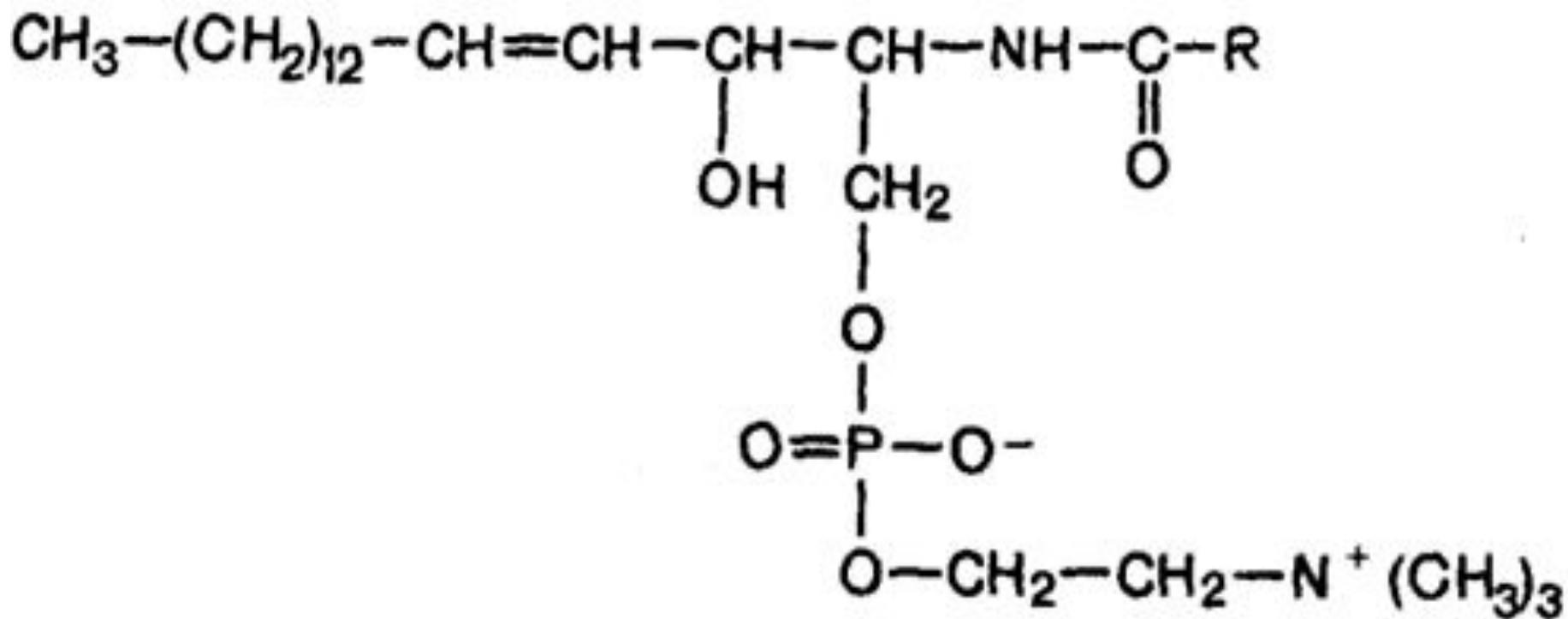
Sphingolipid ceramide

Sphingosine

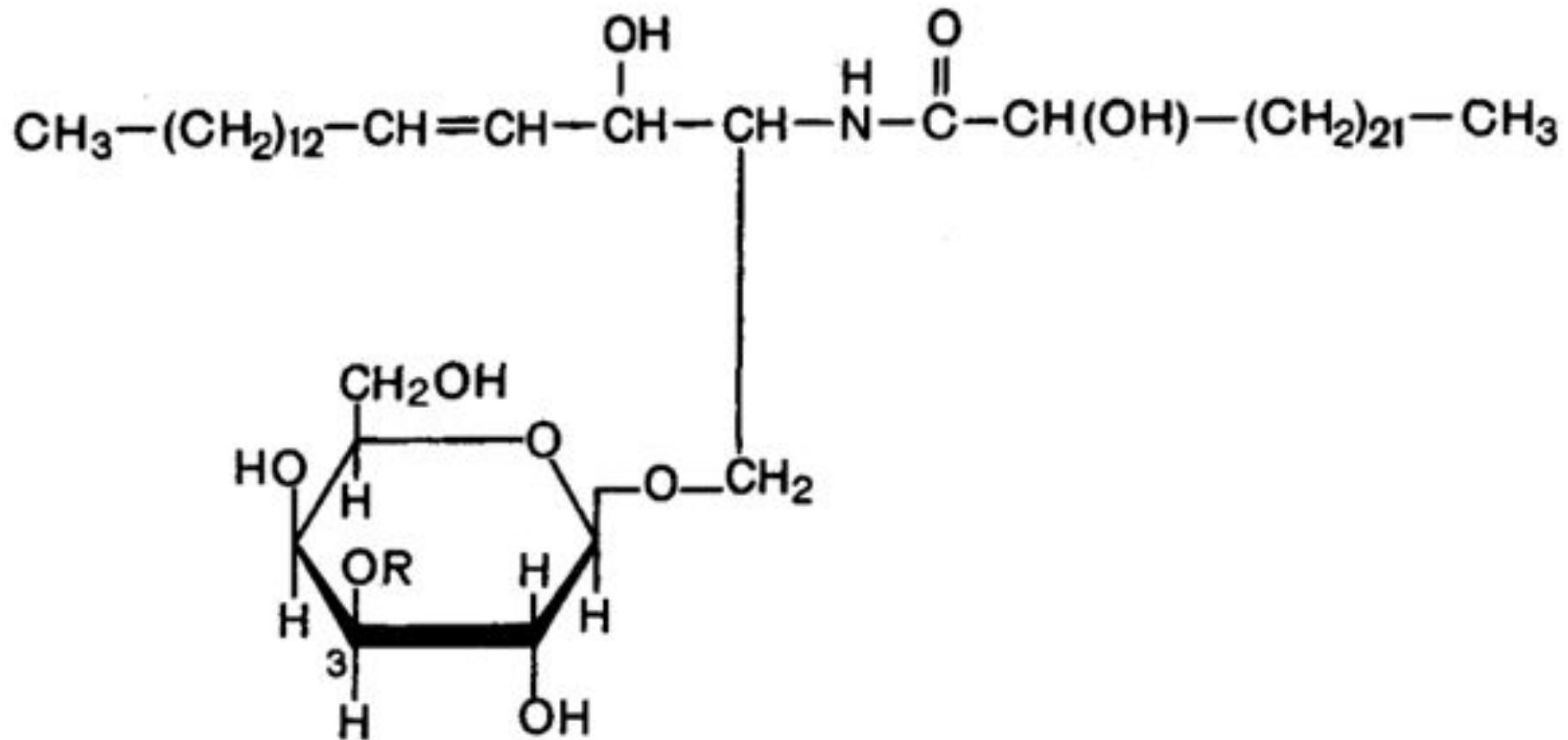


Fatty acid

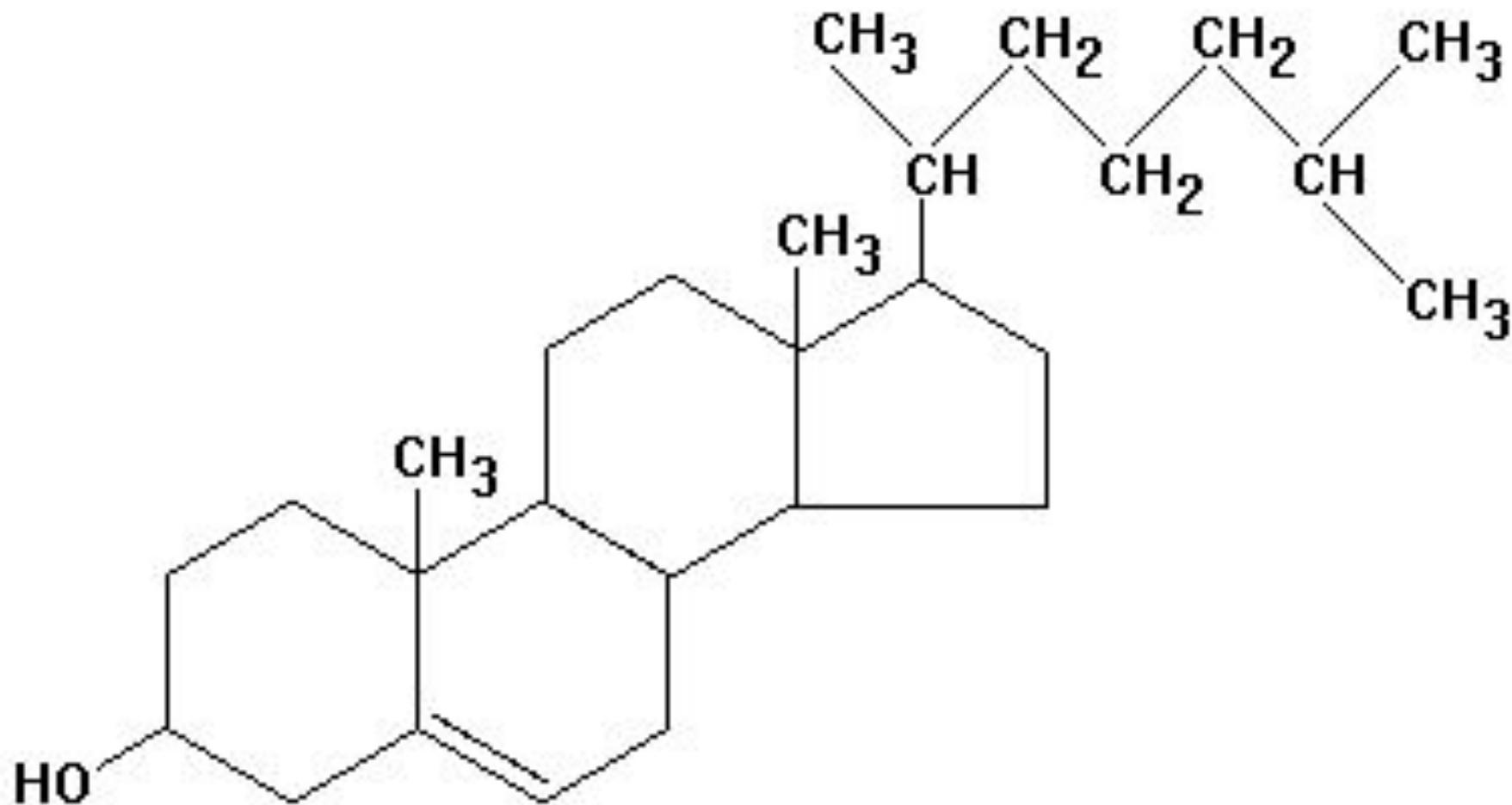
Sphingophospholipid sphingomyelin



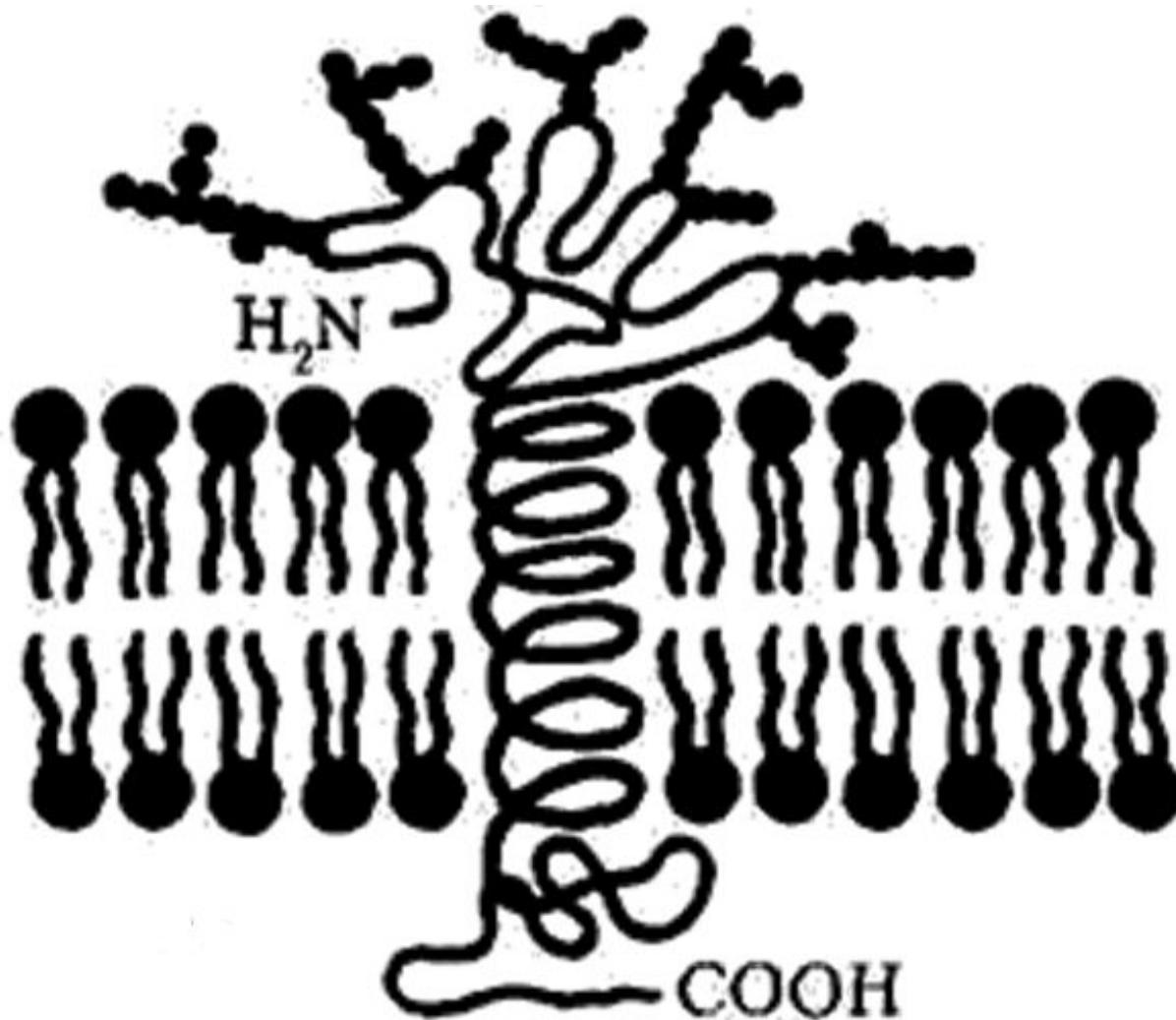
Glycolipid galactosyl ceramide



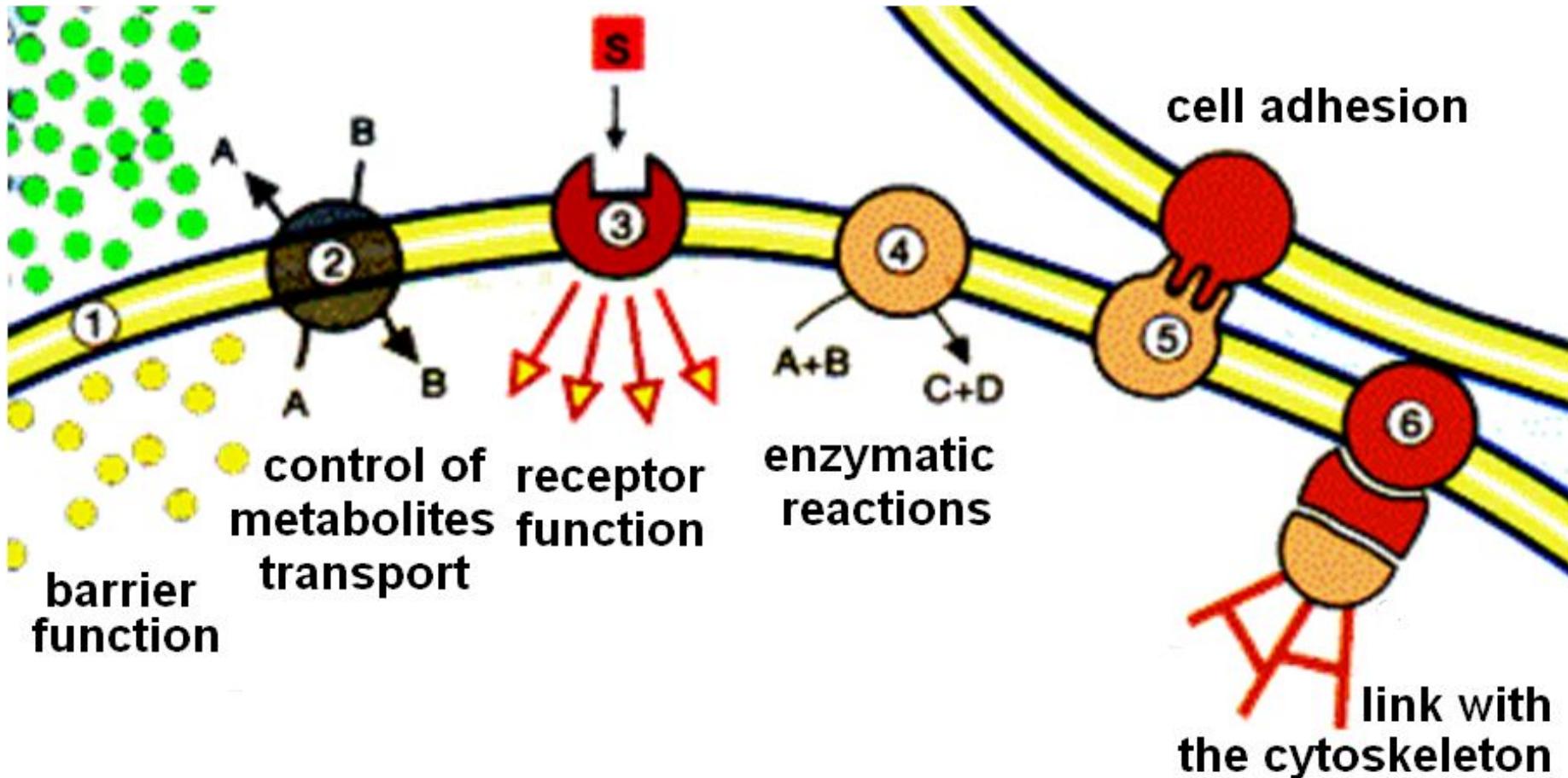
Cholesterol



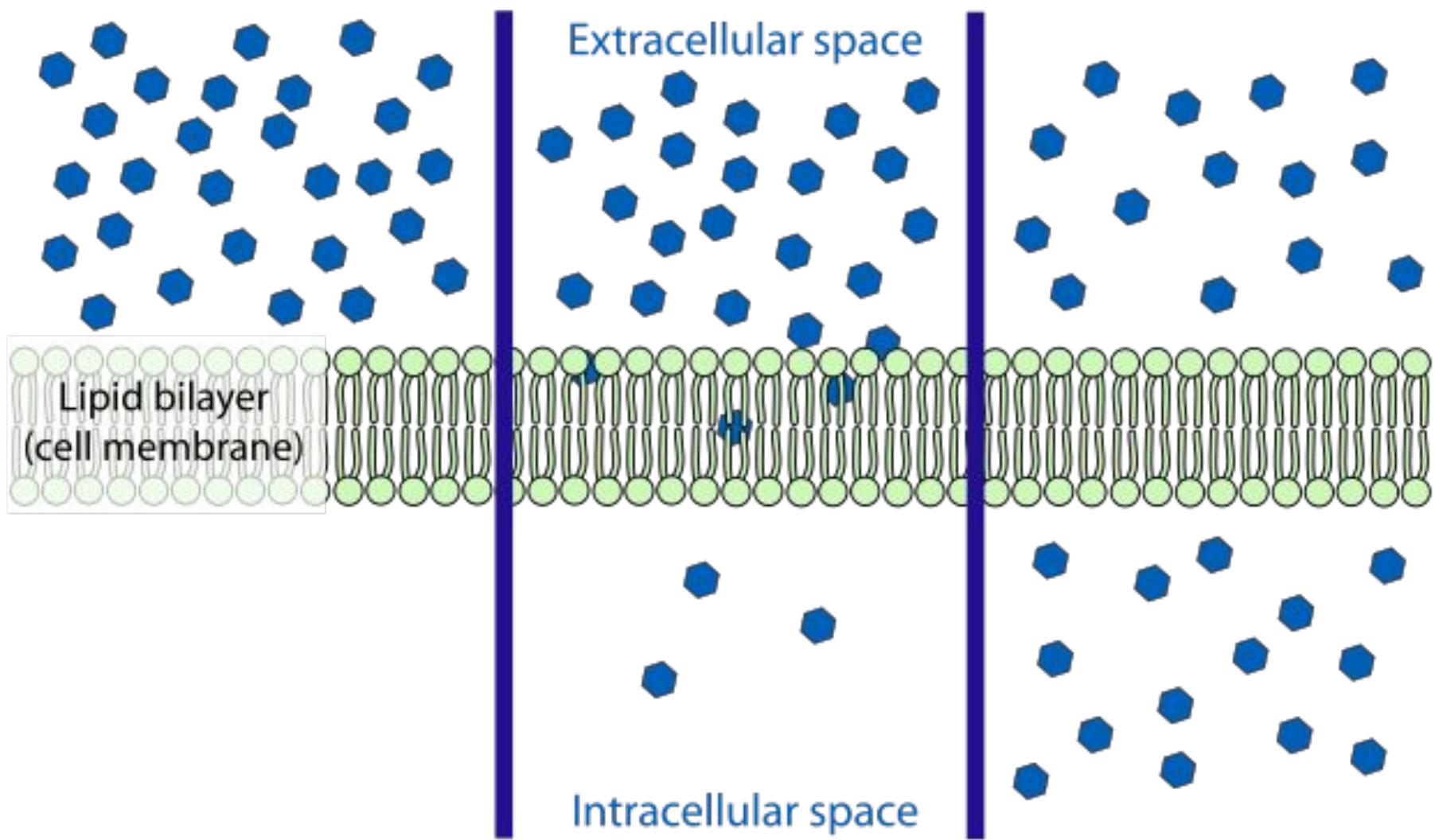
Integral protein-receptor (glycoprotein)



Functions of biological membranes



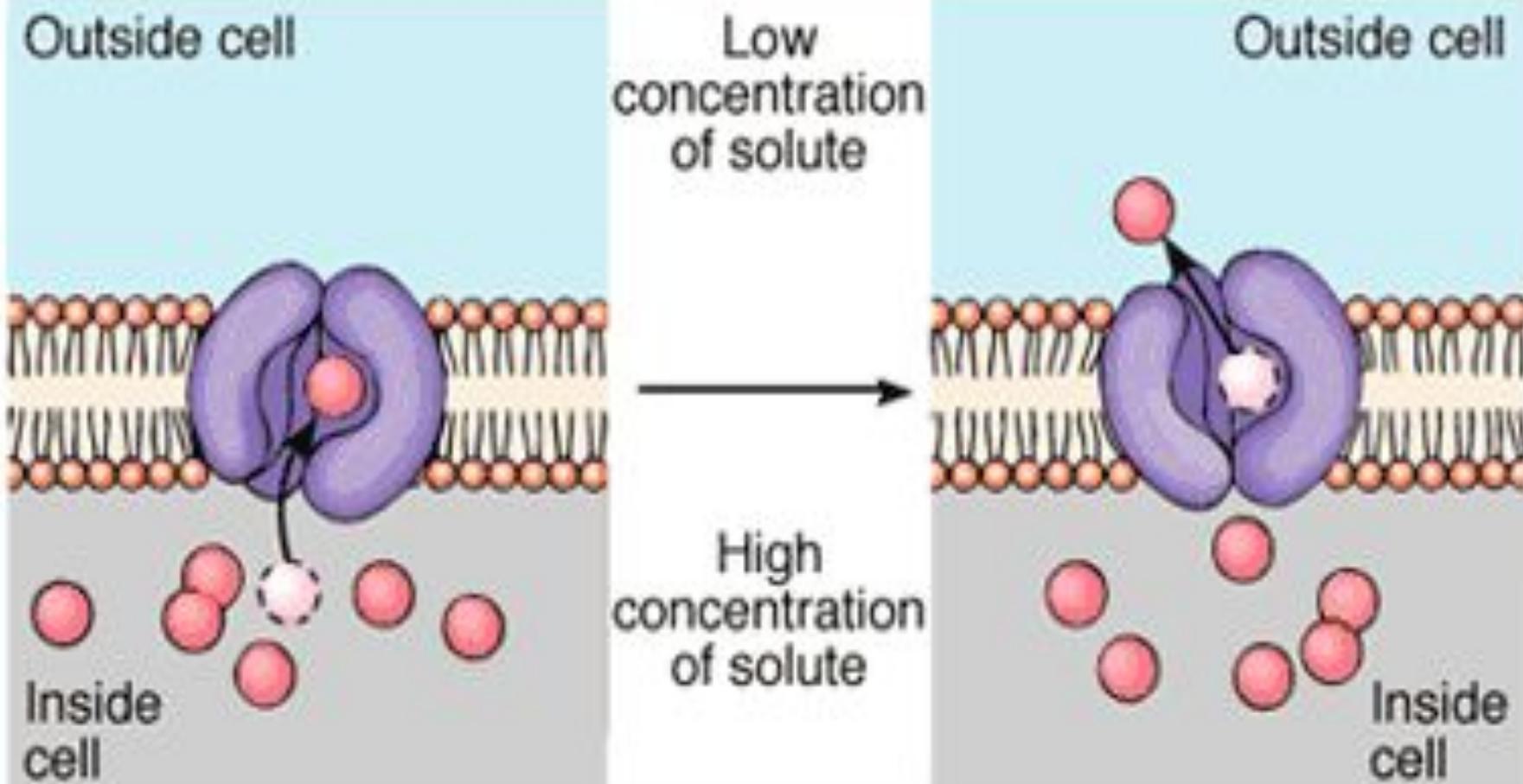
Simple diffusion



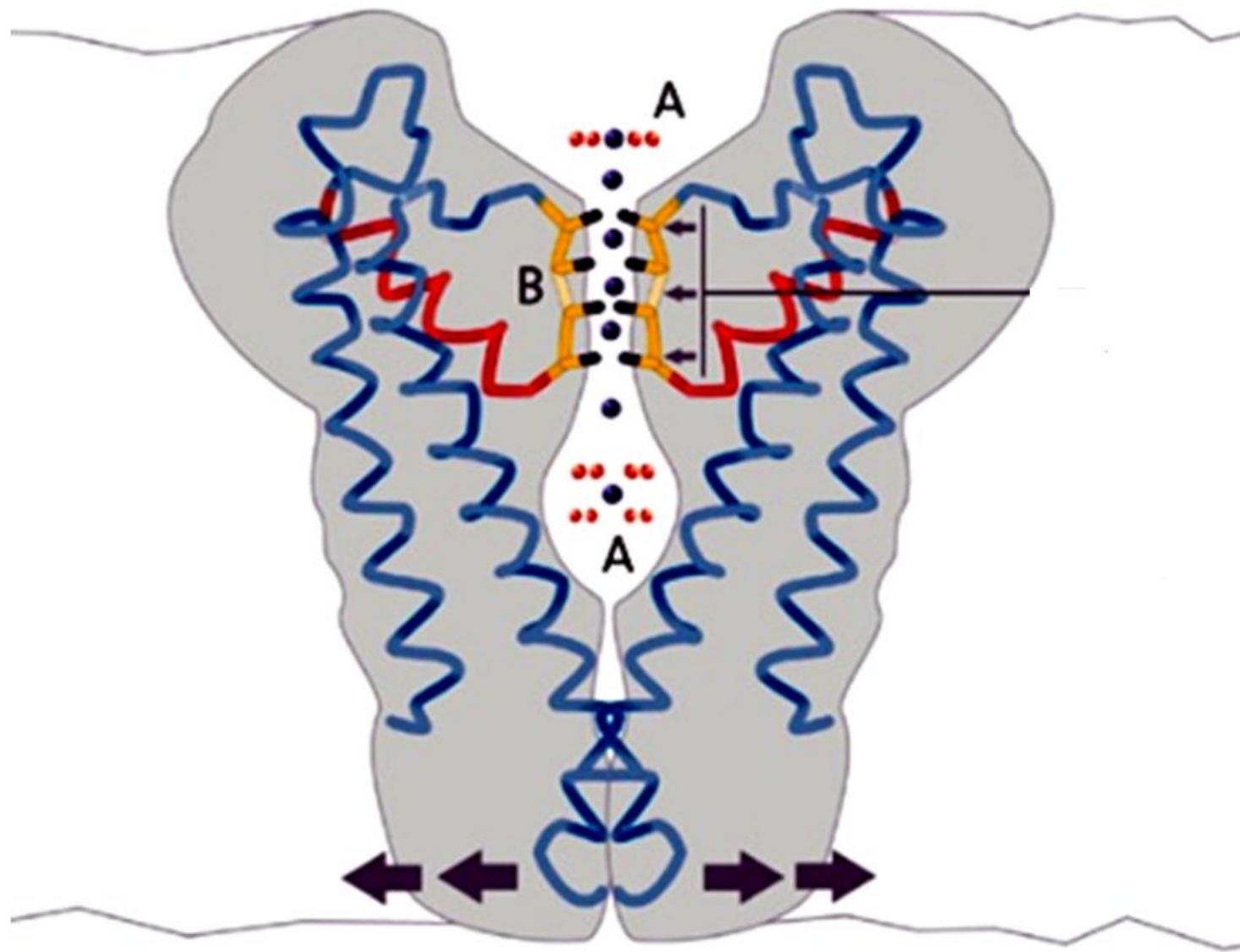
TIME

Facilitated diffusion

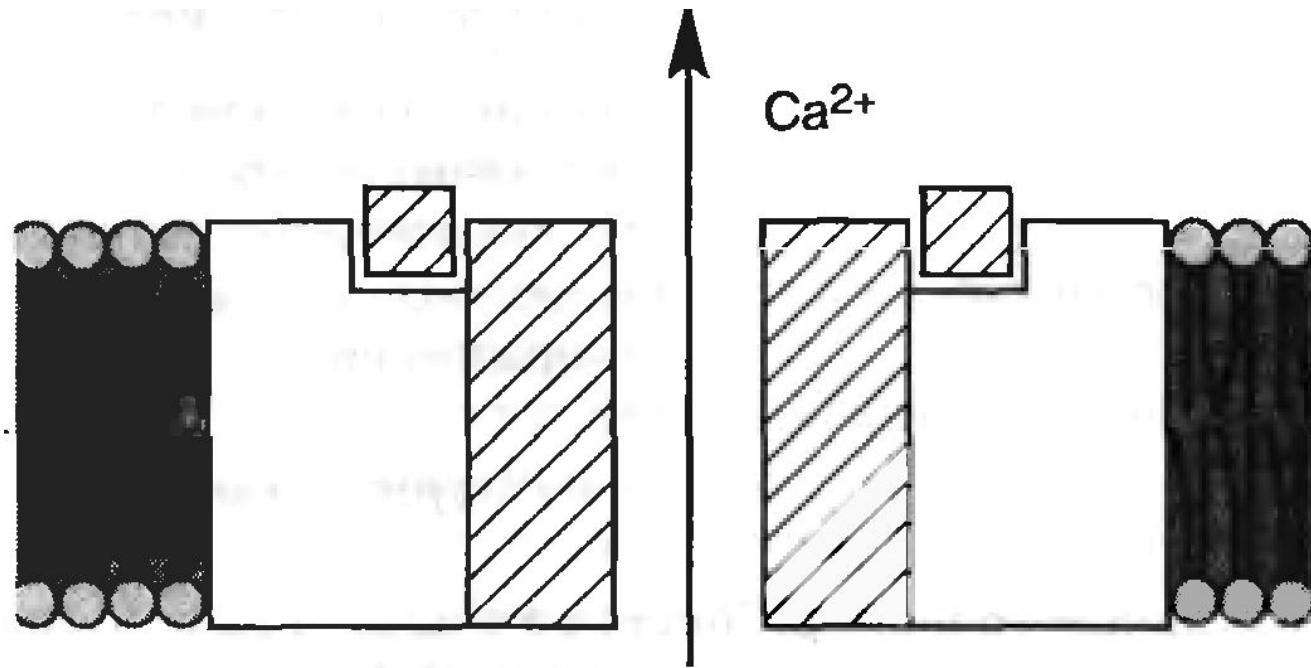
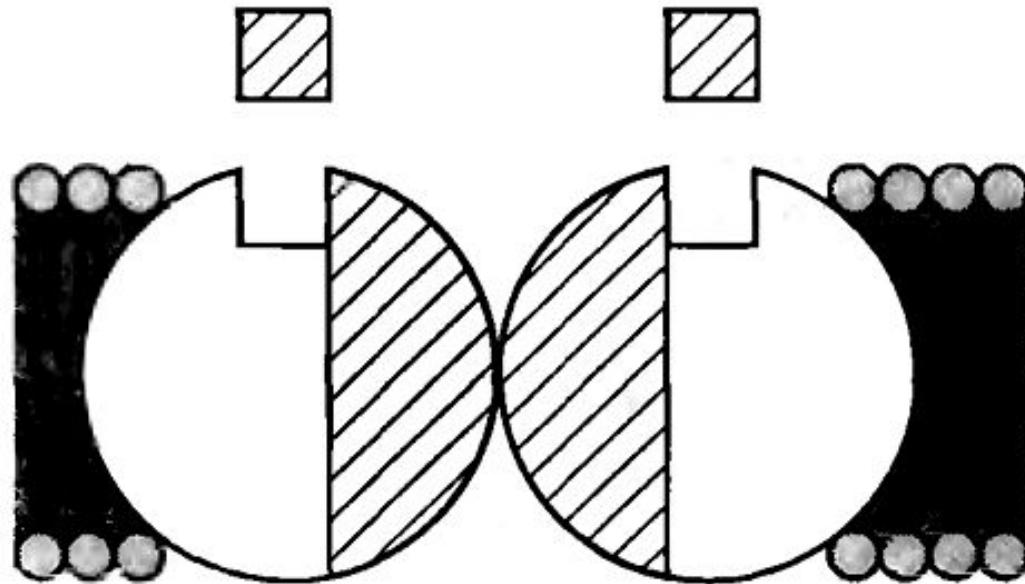
Facilitated diffusion



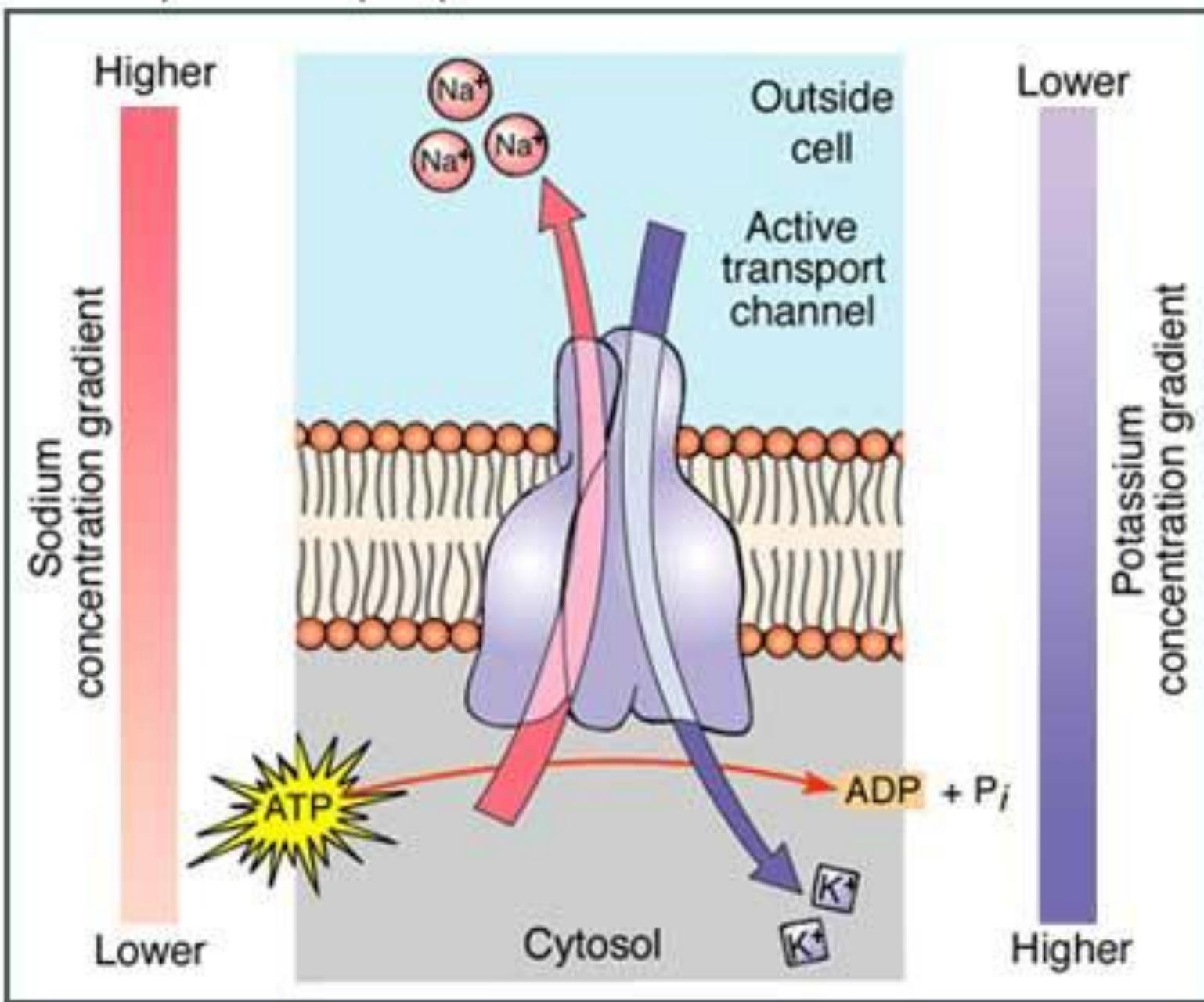
Ion channels



Regulated calcium channel



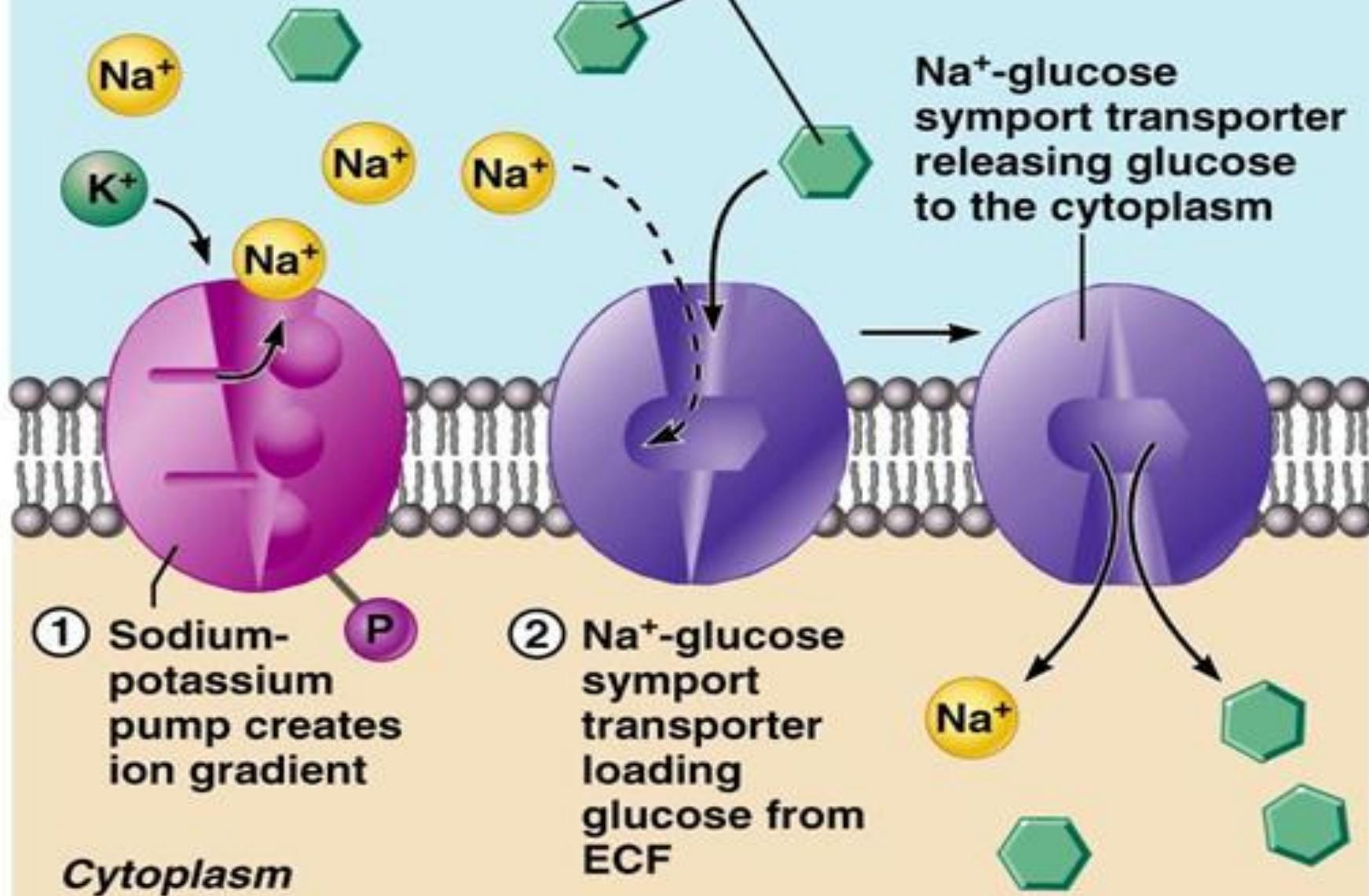
Sodium-potassium pump

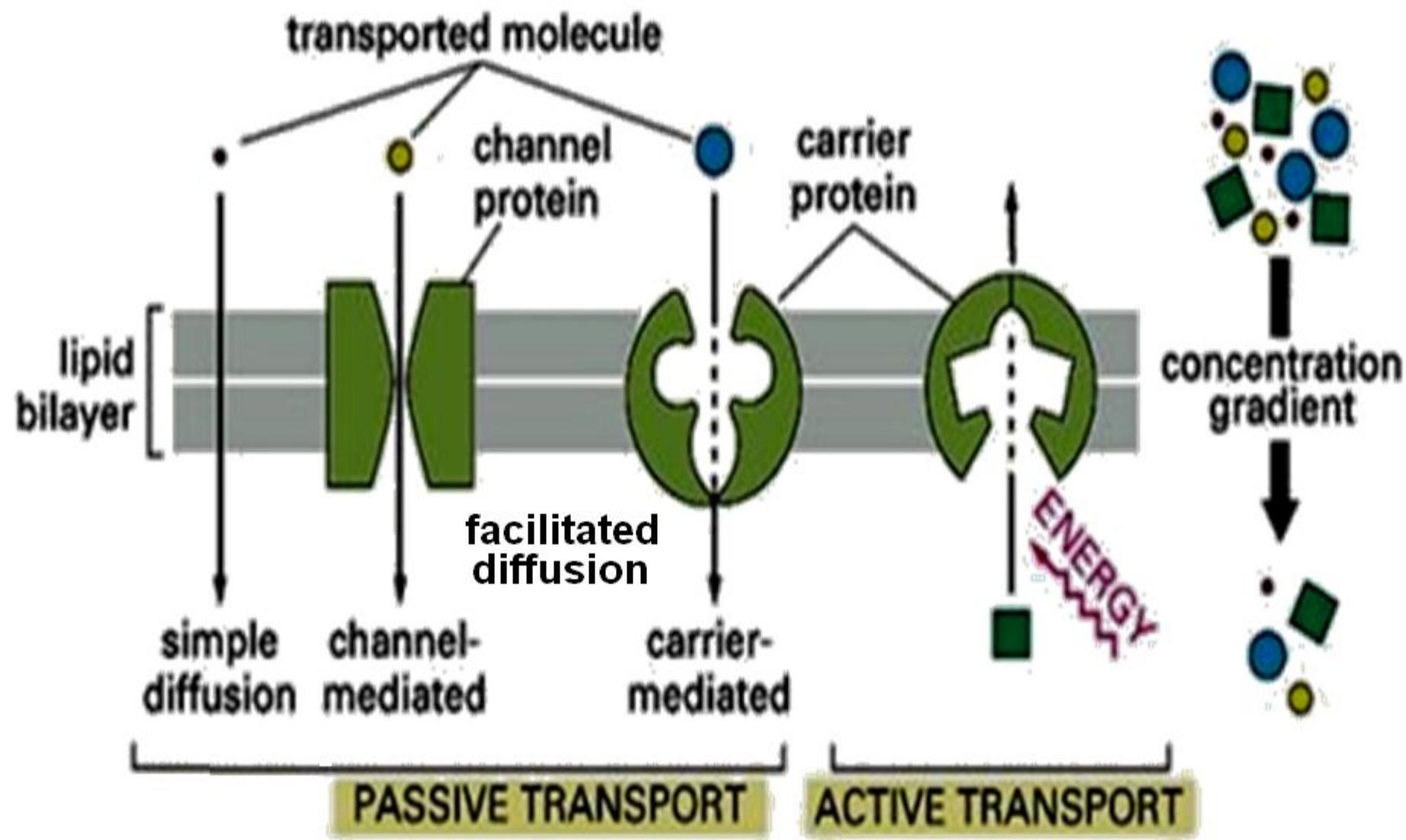


*Extracellular
fluid*

Glucose

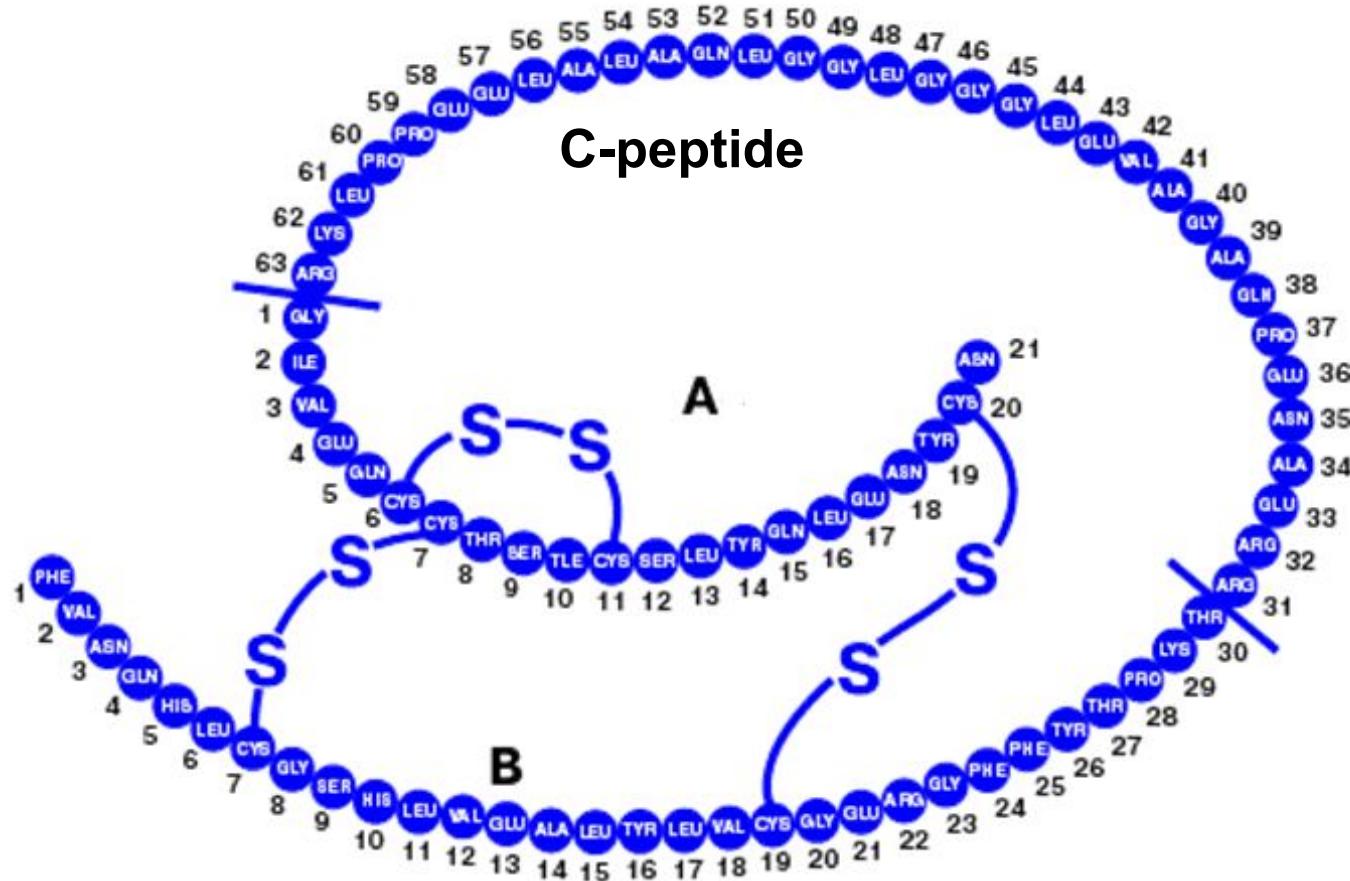
Na^+ -glucose
symport transporter
releasing glucose
to the cytoplasm





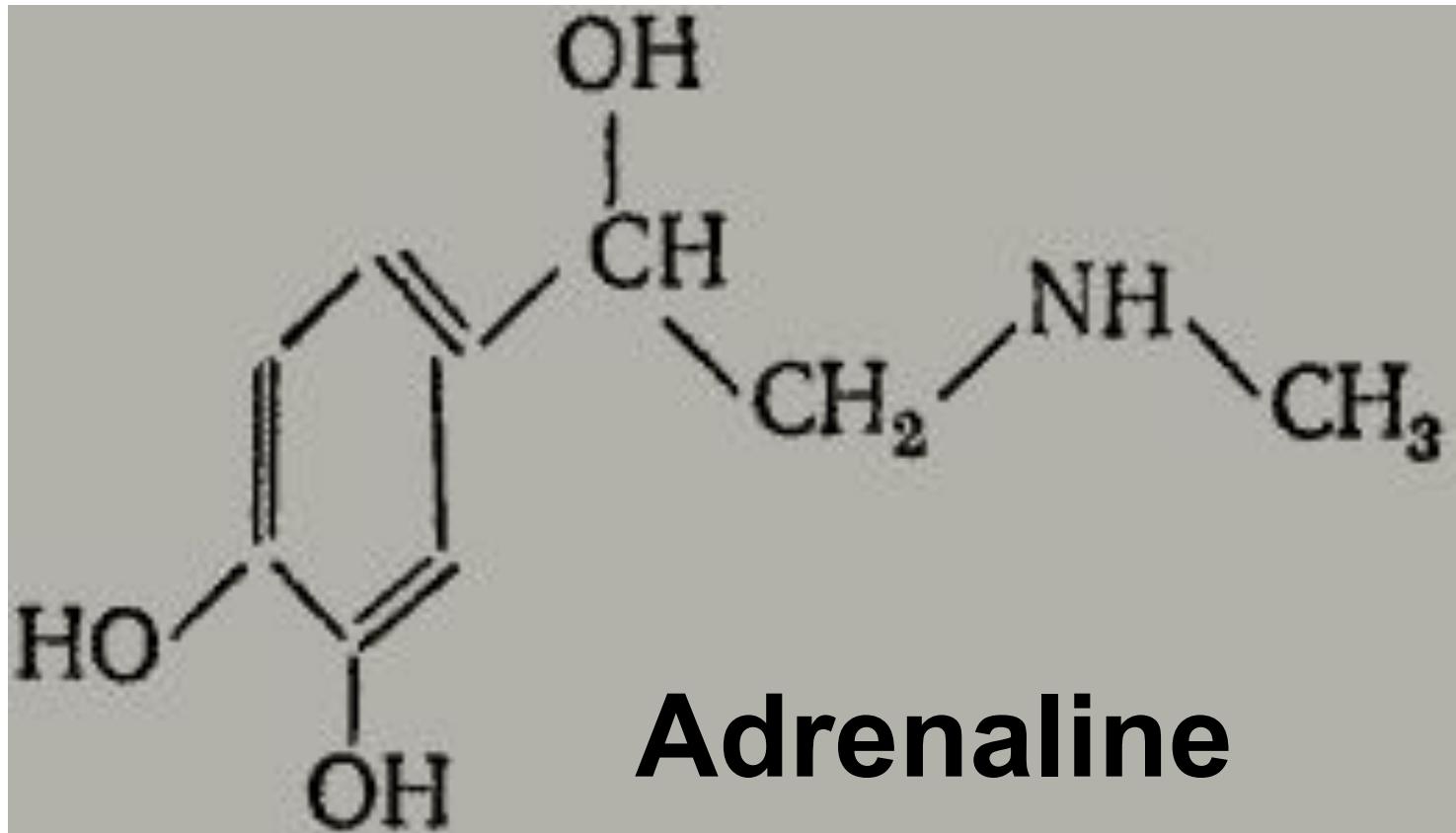
The Mechanism of Hormonal Signal Transmission

Peptide and protein hormones

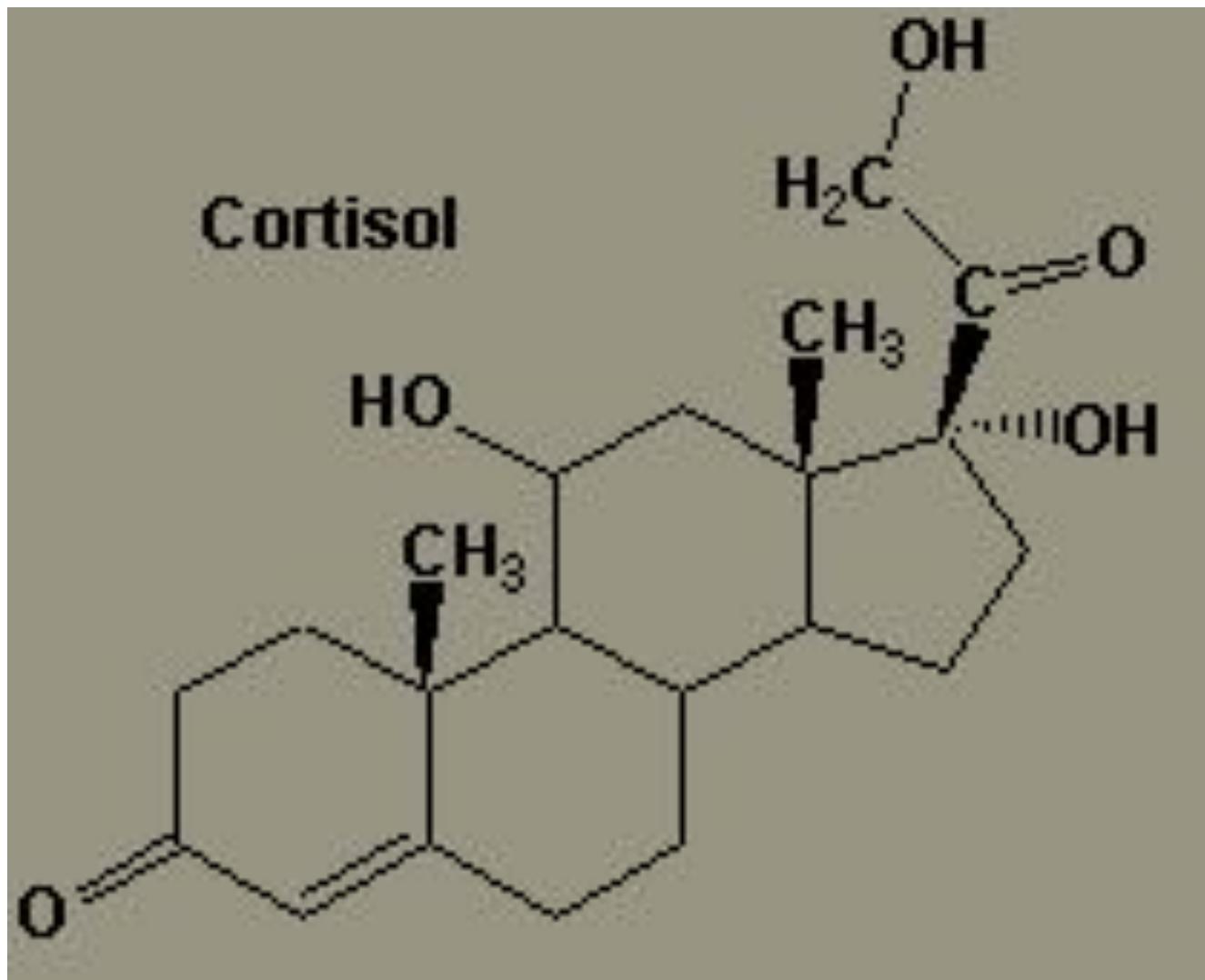


Insulin

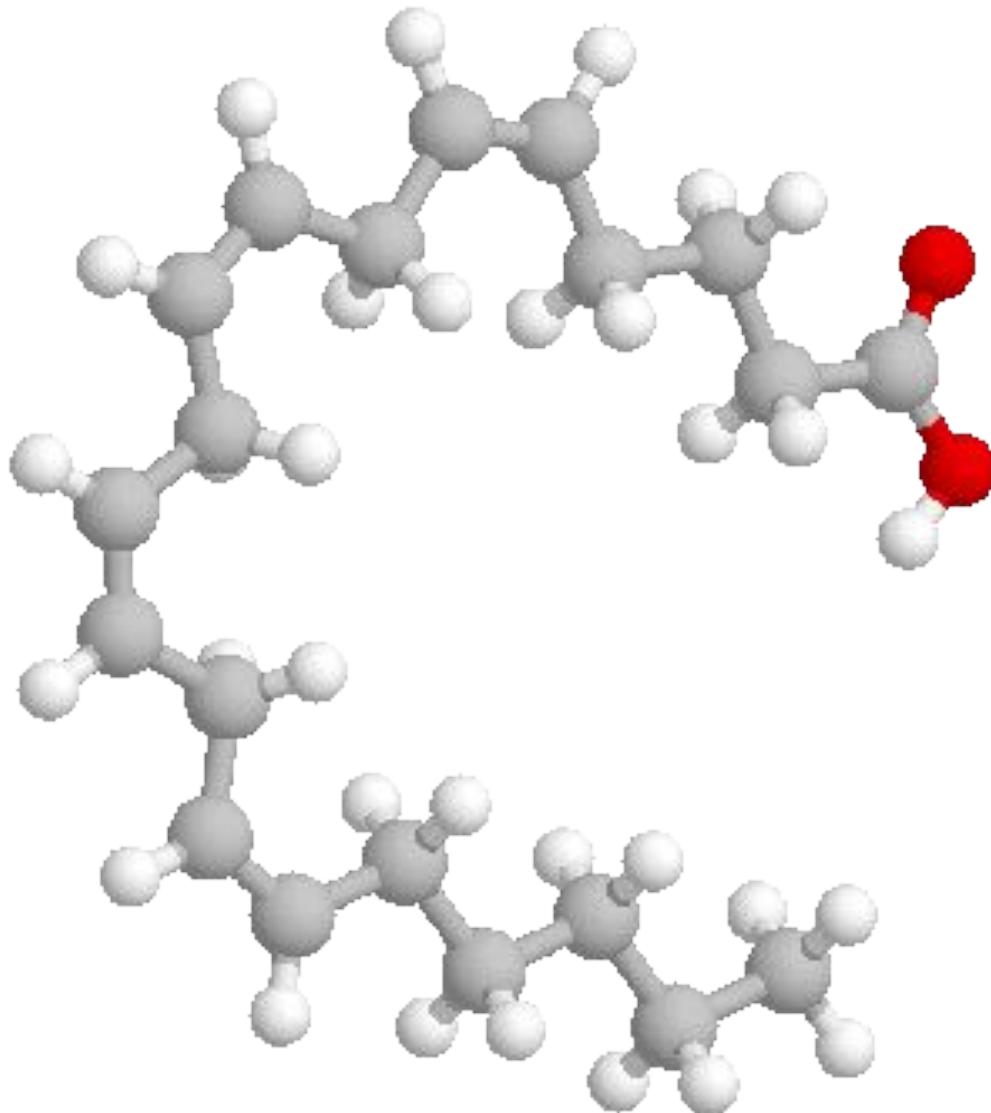
Hormones - amino acid derivatives



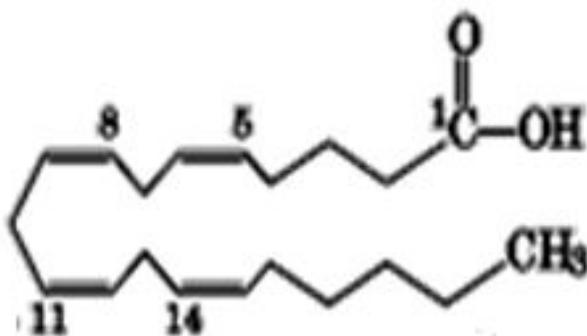
Steroid hormones



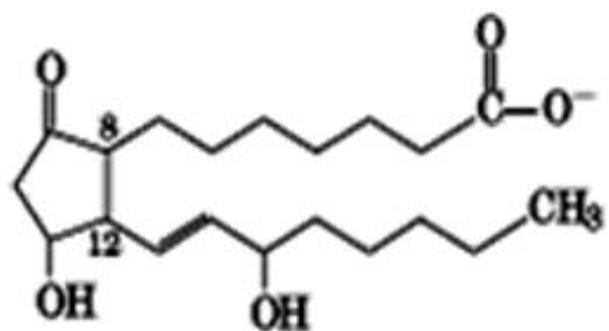
Arachidonic acid



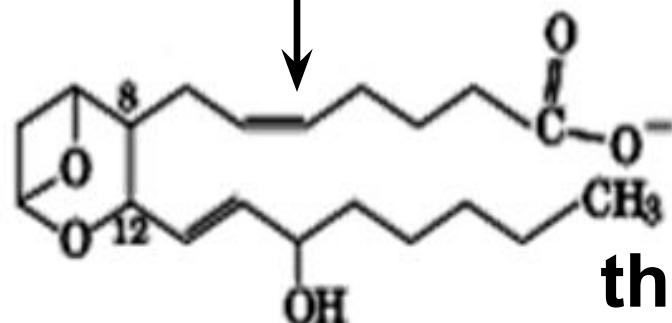
Eicosanoids



arachidonic
acid



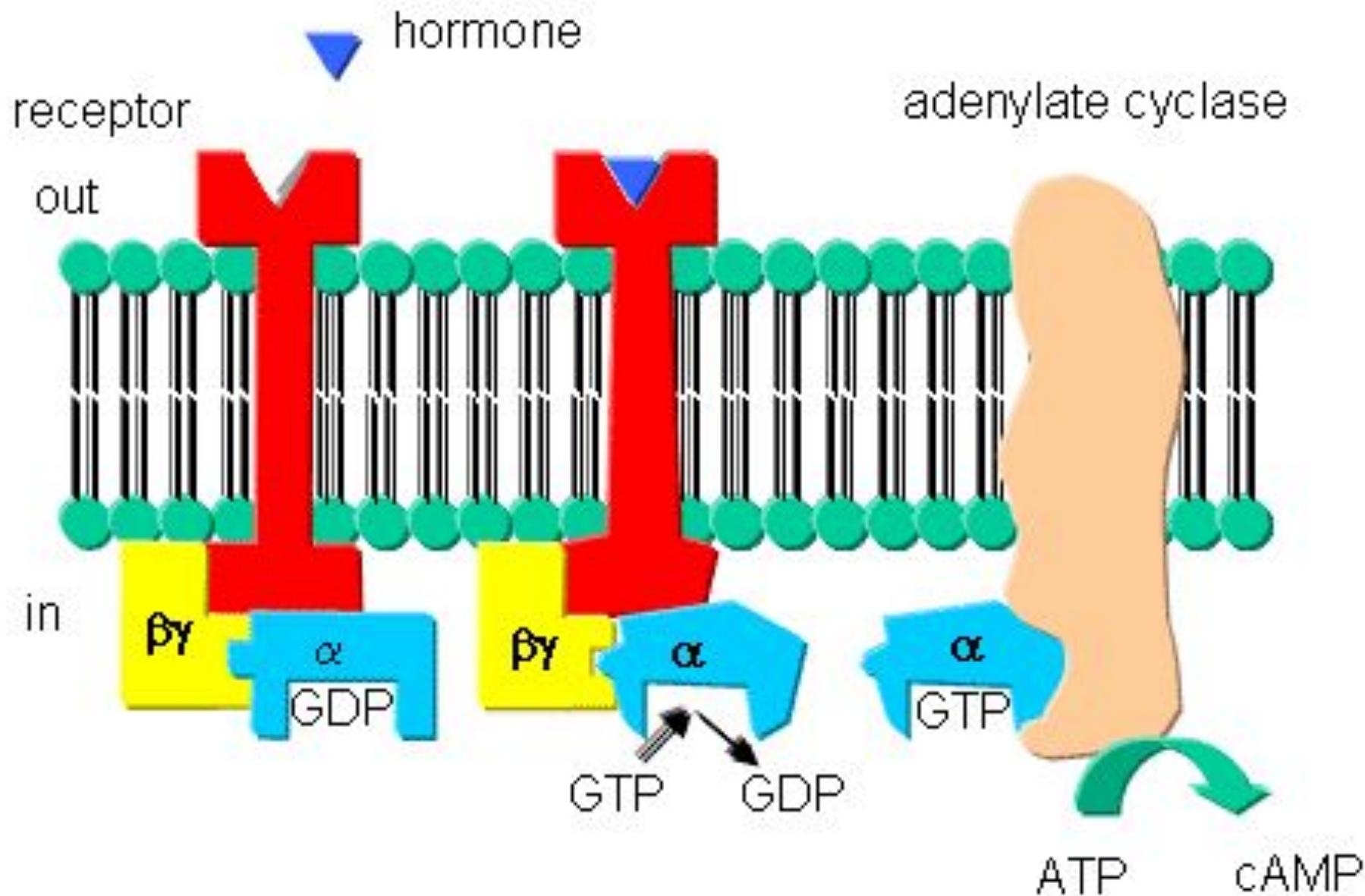
prostaglandins

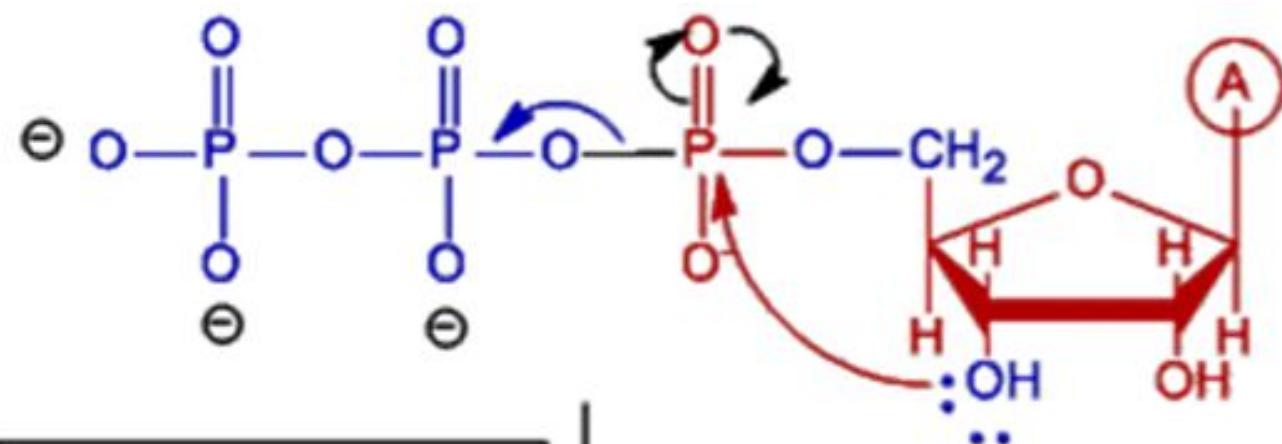


leukotrienes

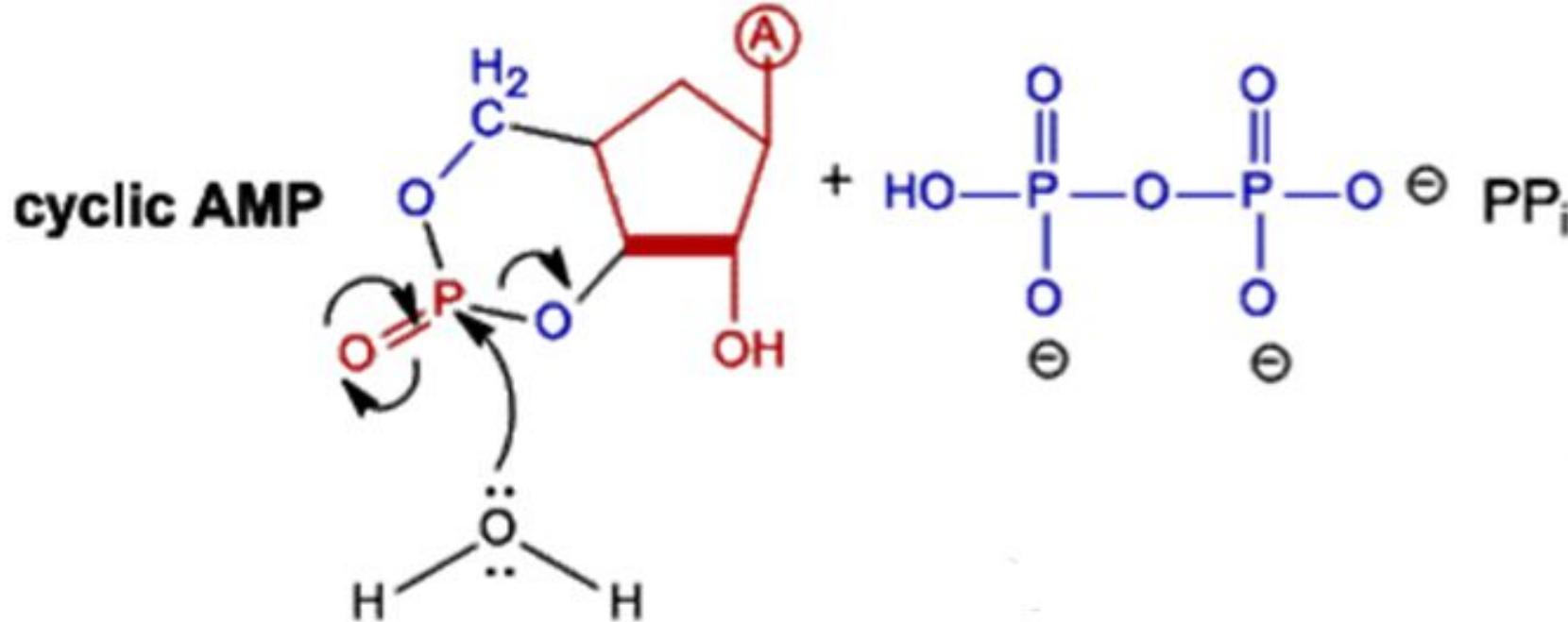
thromboxanes

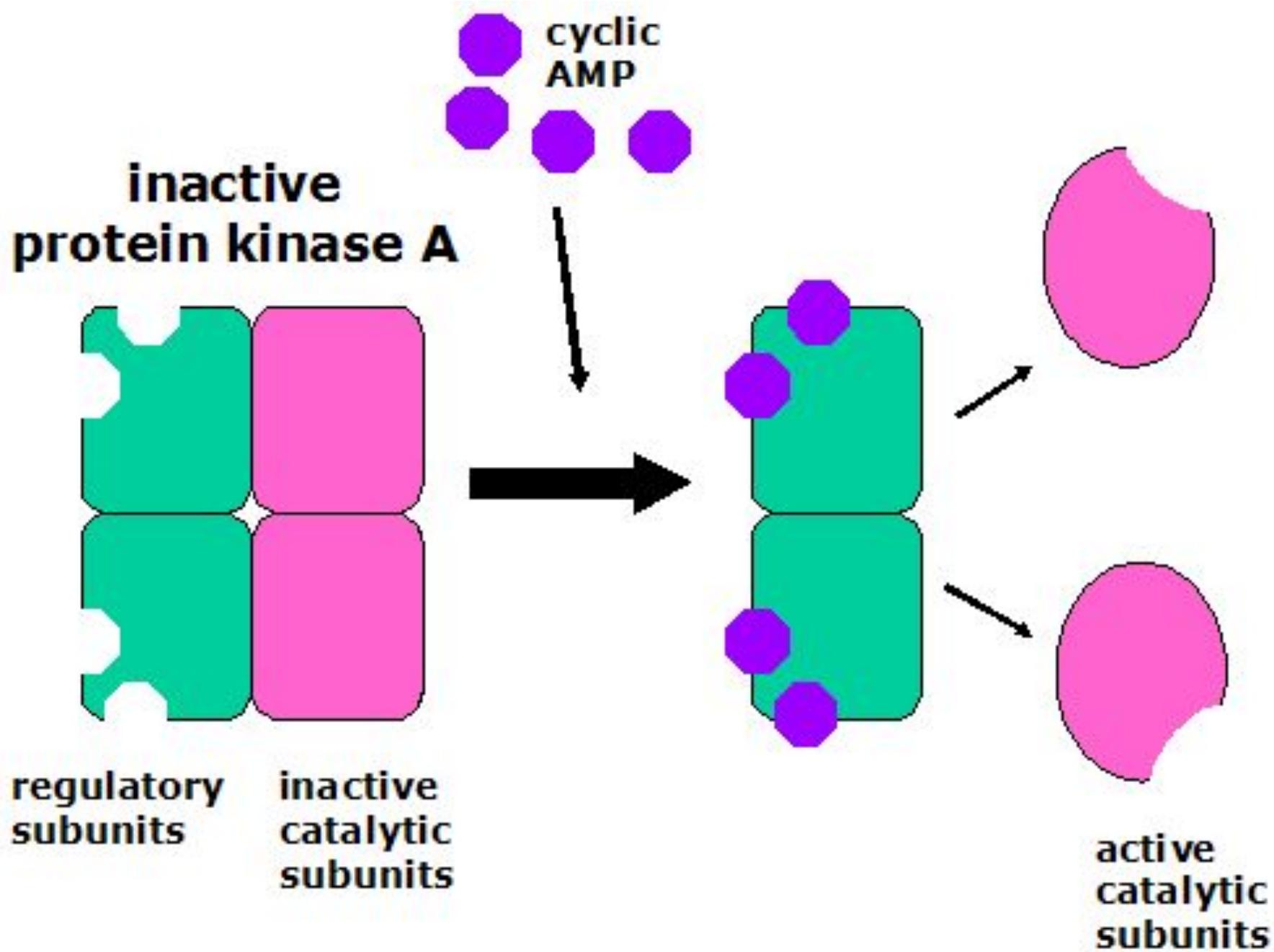
Adenylate cyclase messenger system





adenylate cyclase

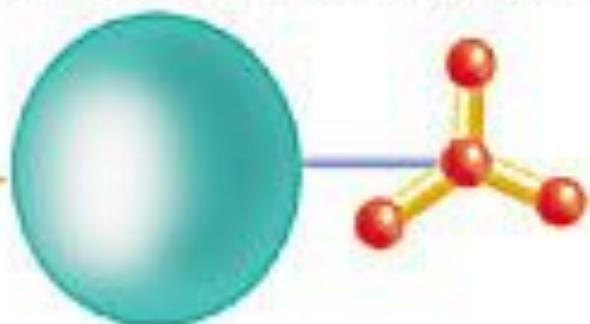




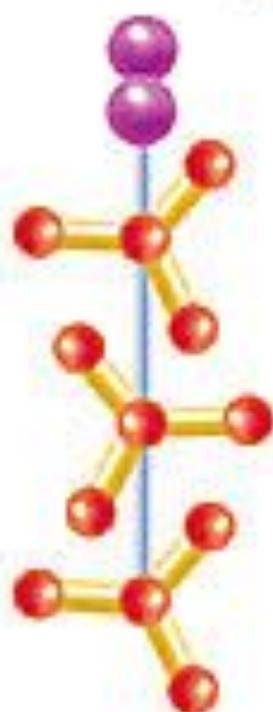
Protein



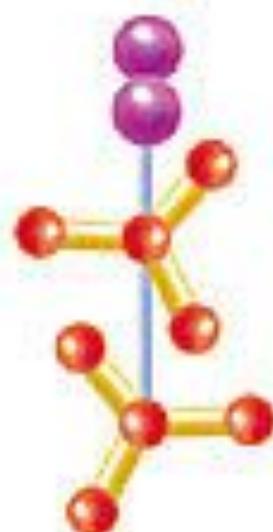
Phosphorylated Protein



Protein Kinase

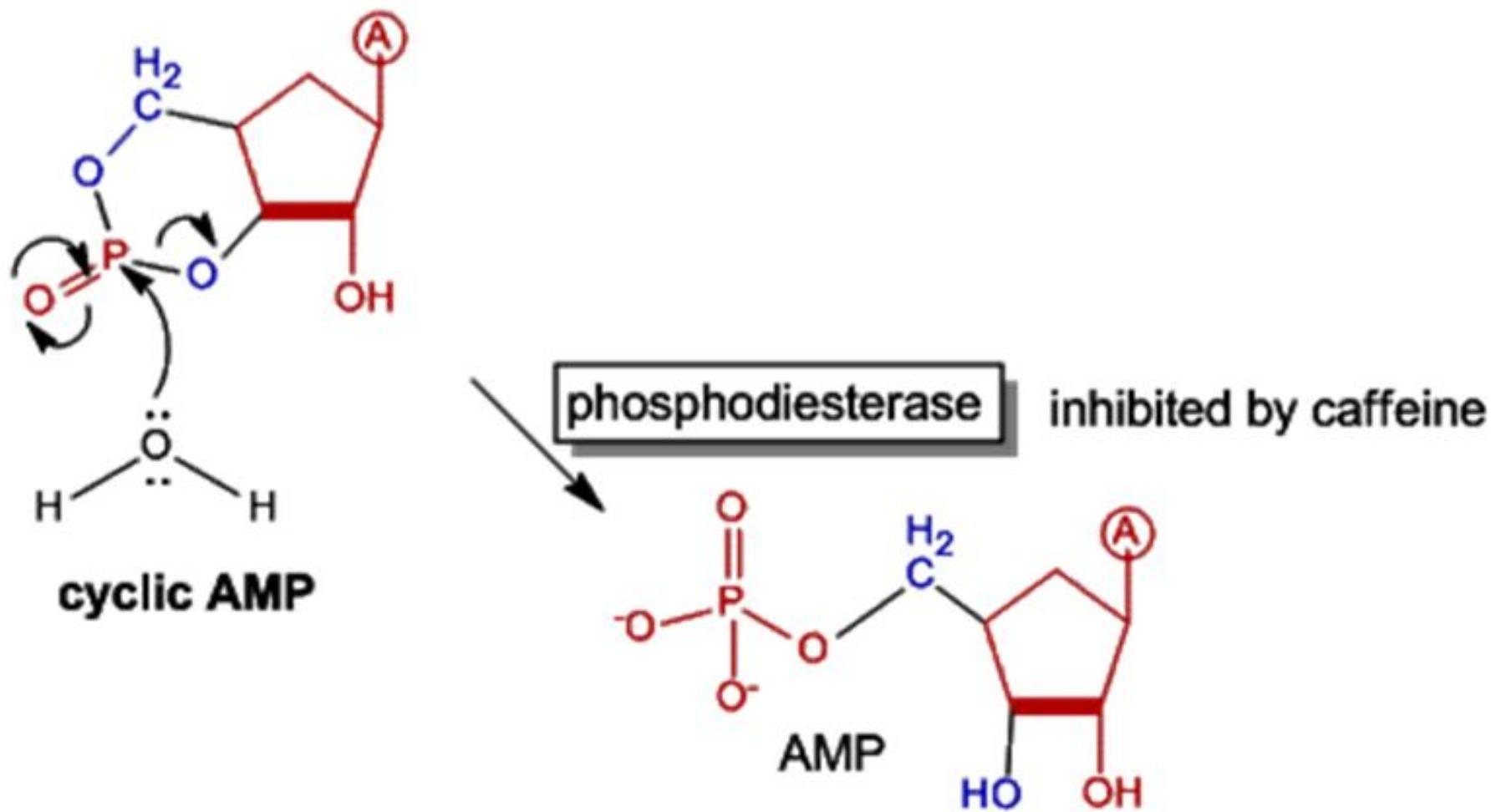


ATP

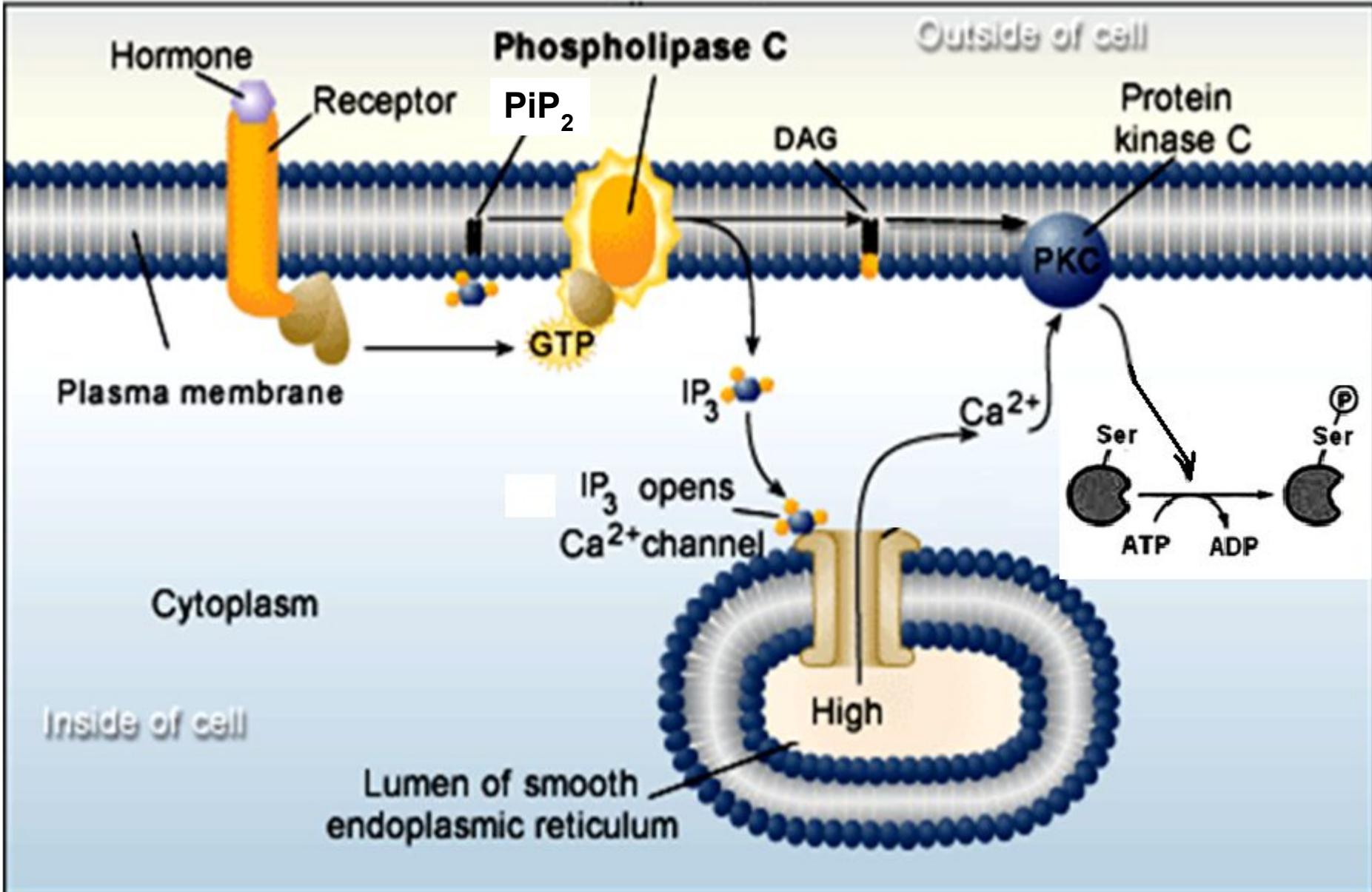


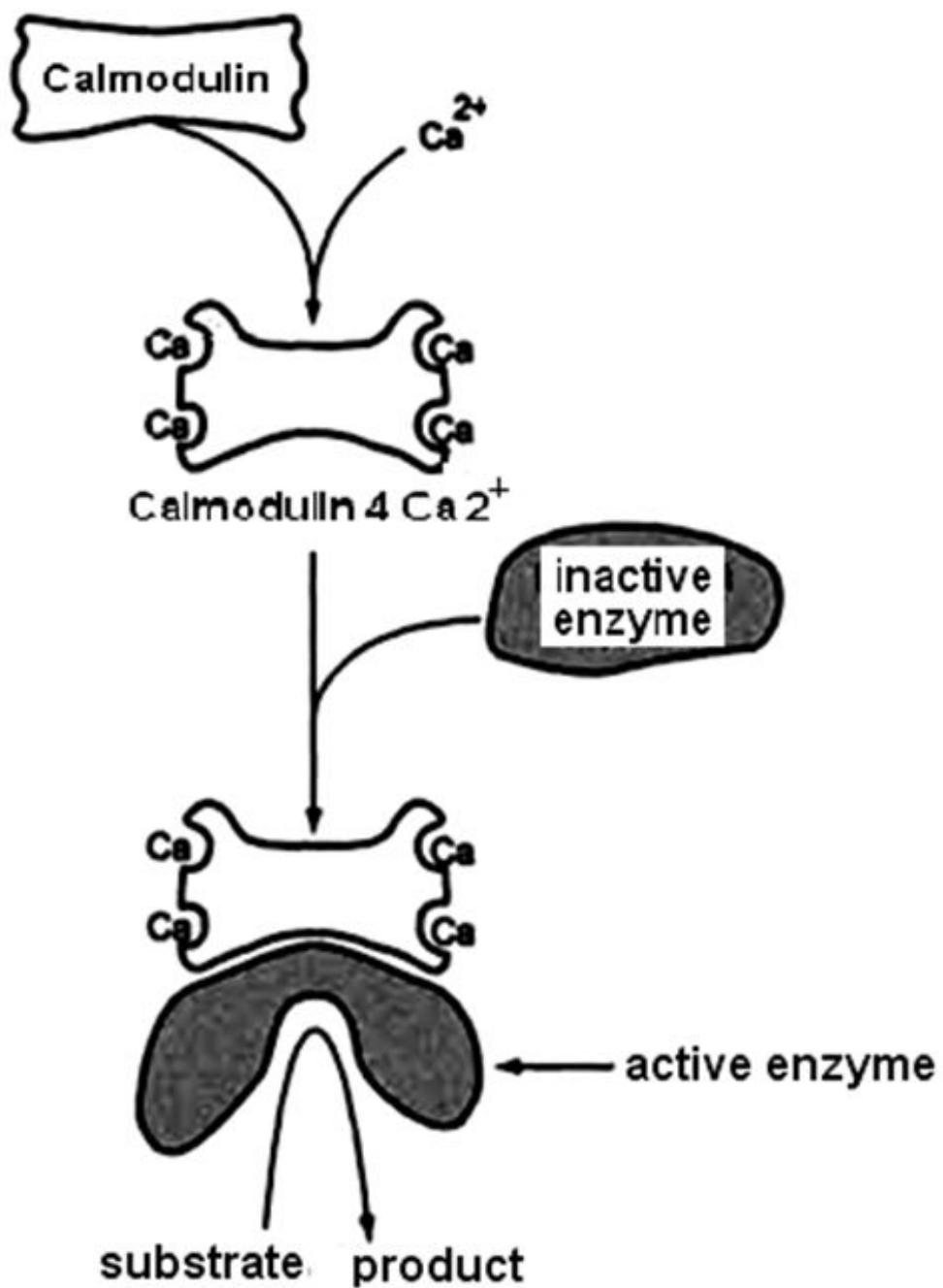
ADP

Termination of signal

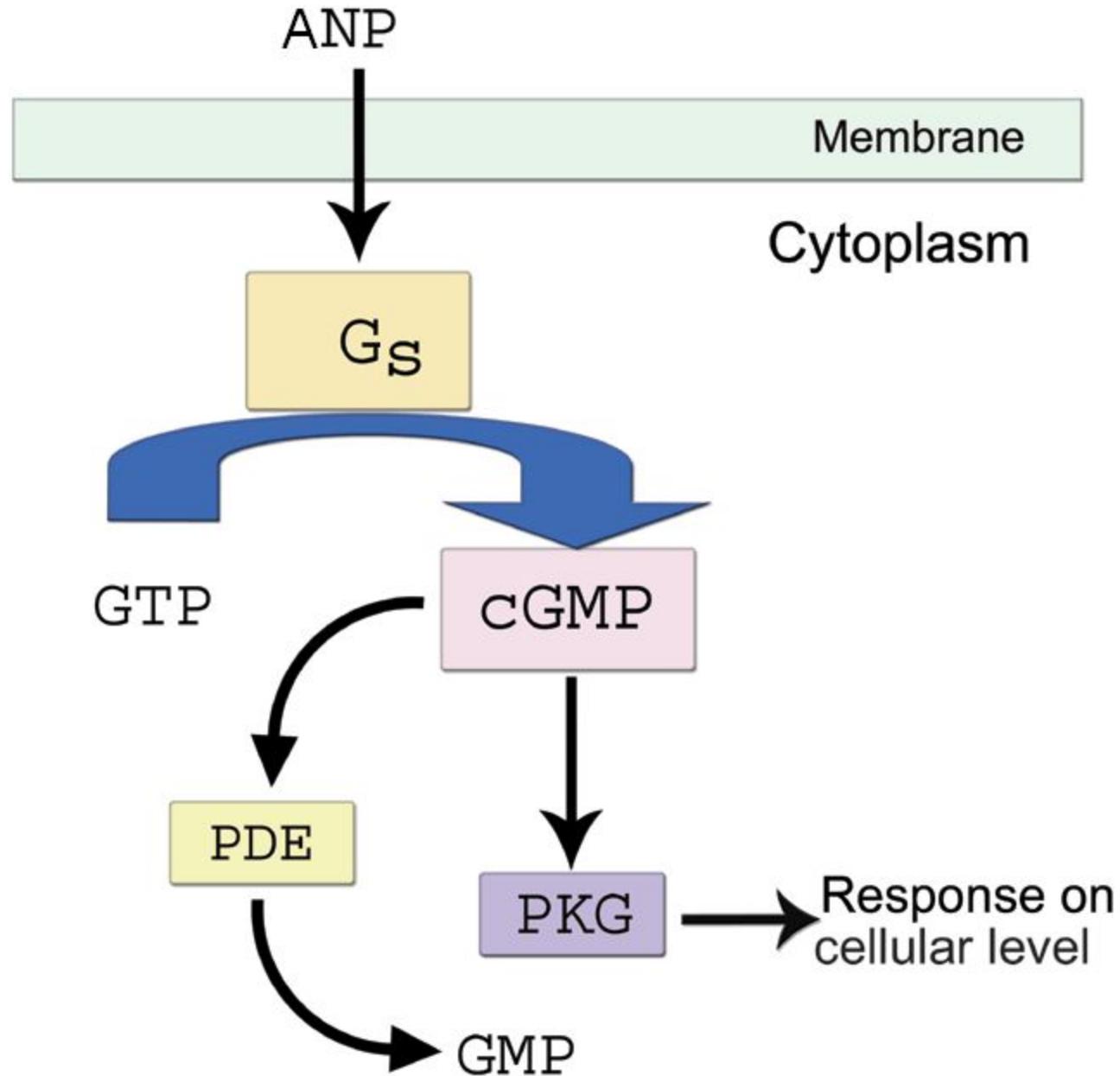


Phosphatidyl inositol calcium system

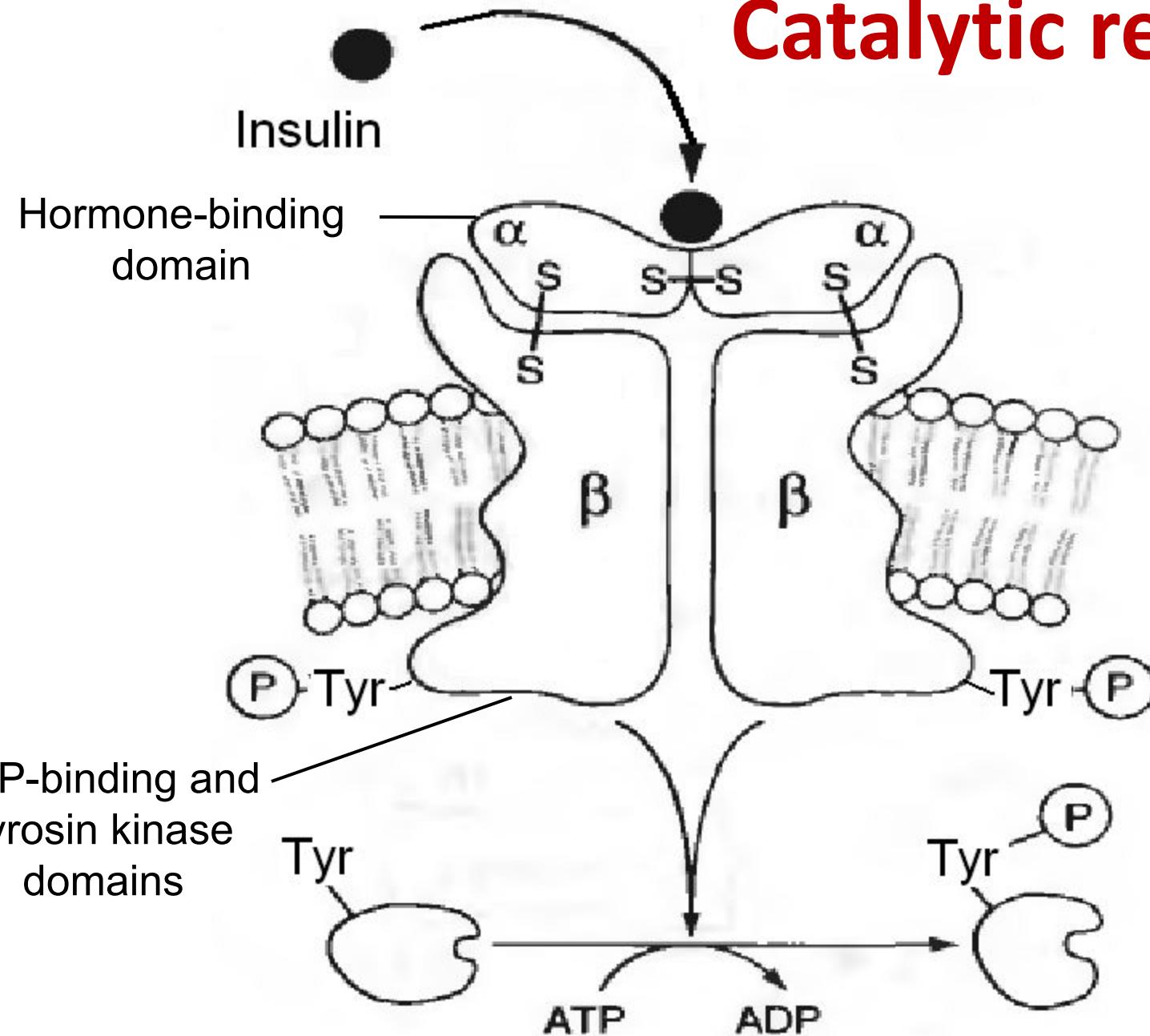




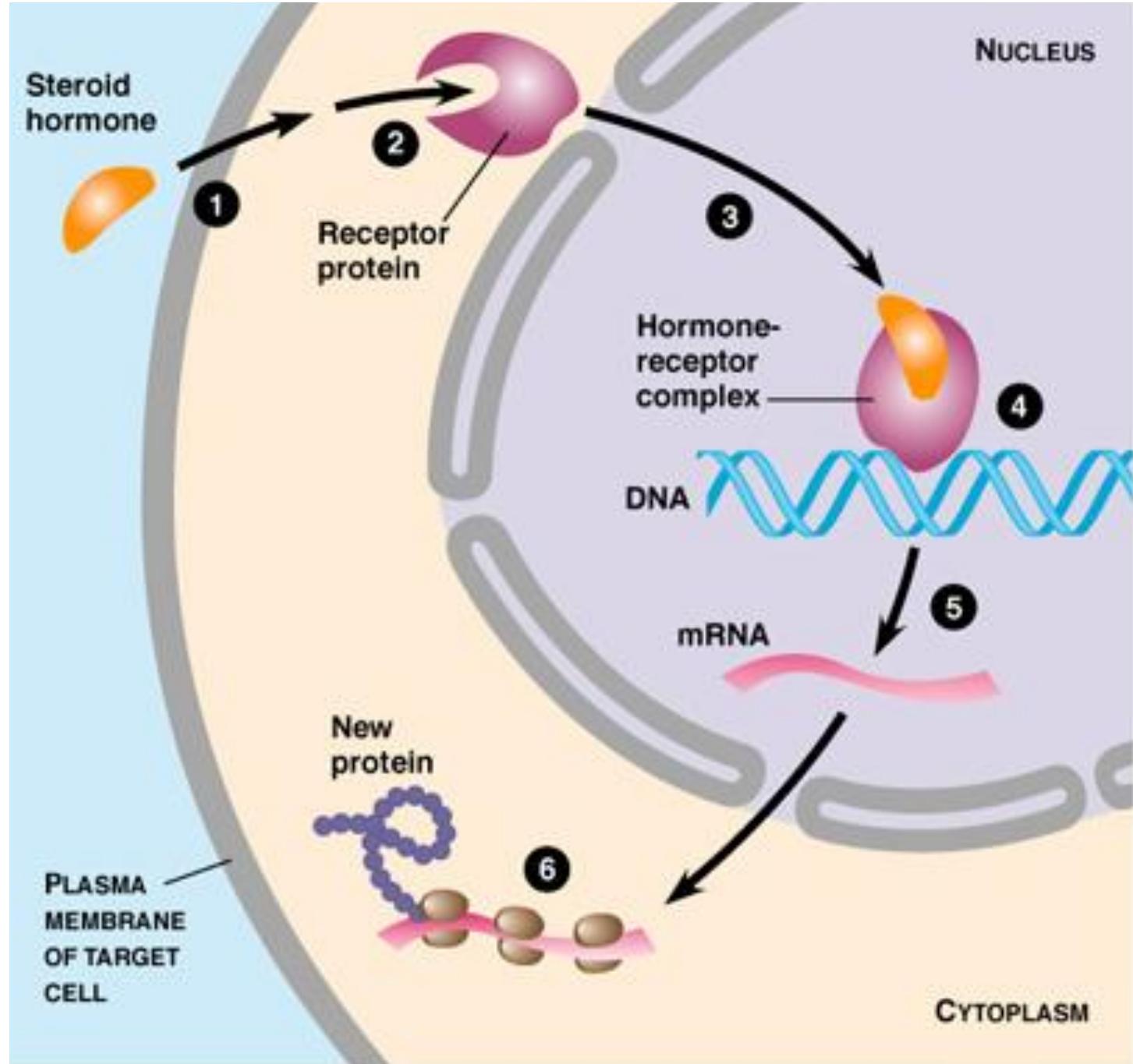
Guanylate cyclase messenger system



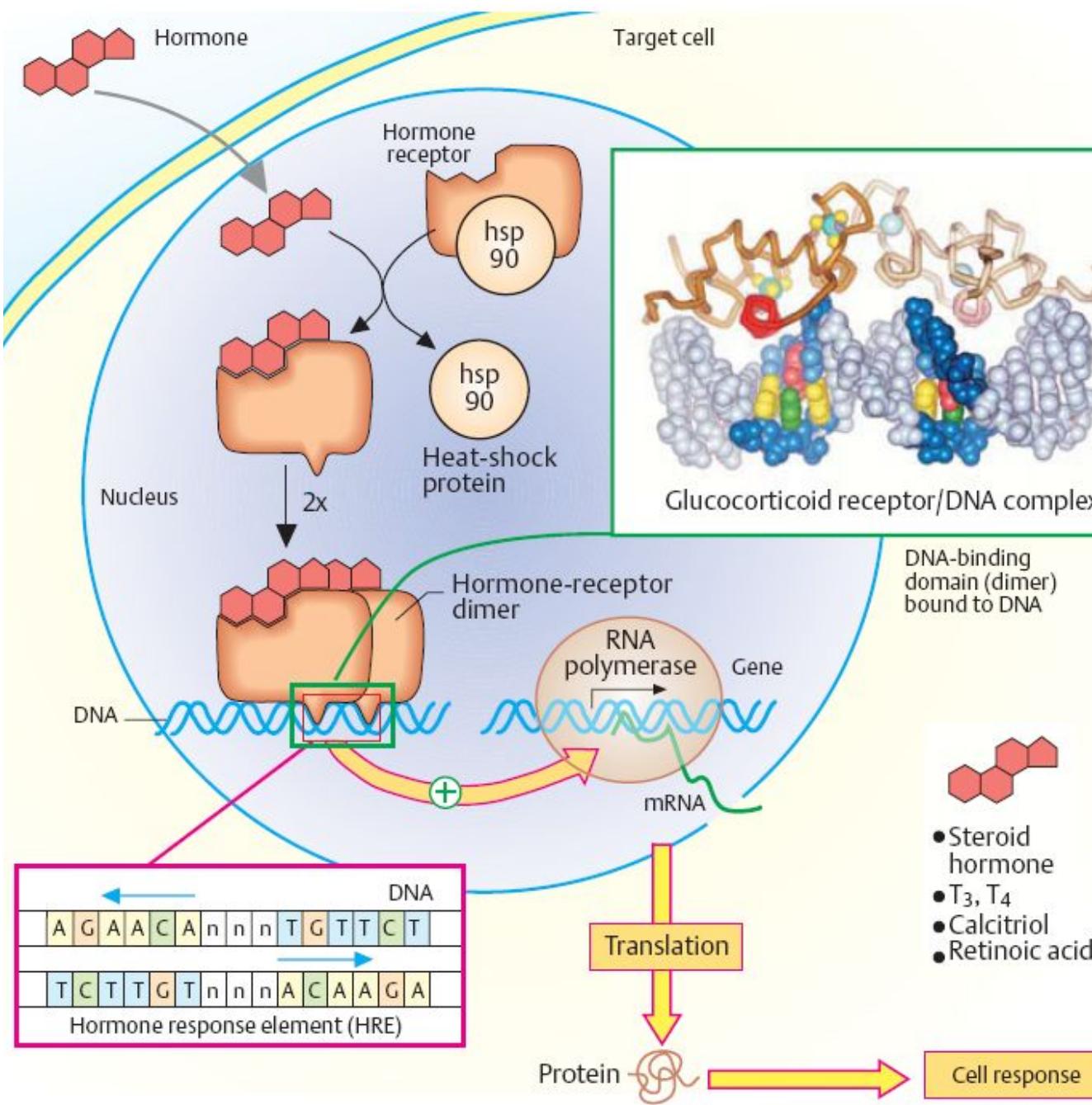
Catalytic receptor



Mechanism of lipophilic hormones action



Mechanism of lipophilic hormones action



Hormonal regulation system

