

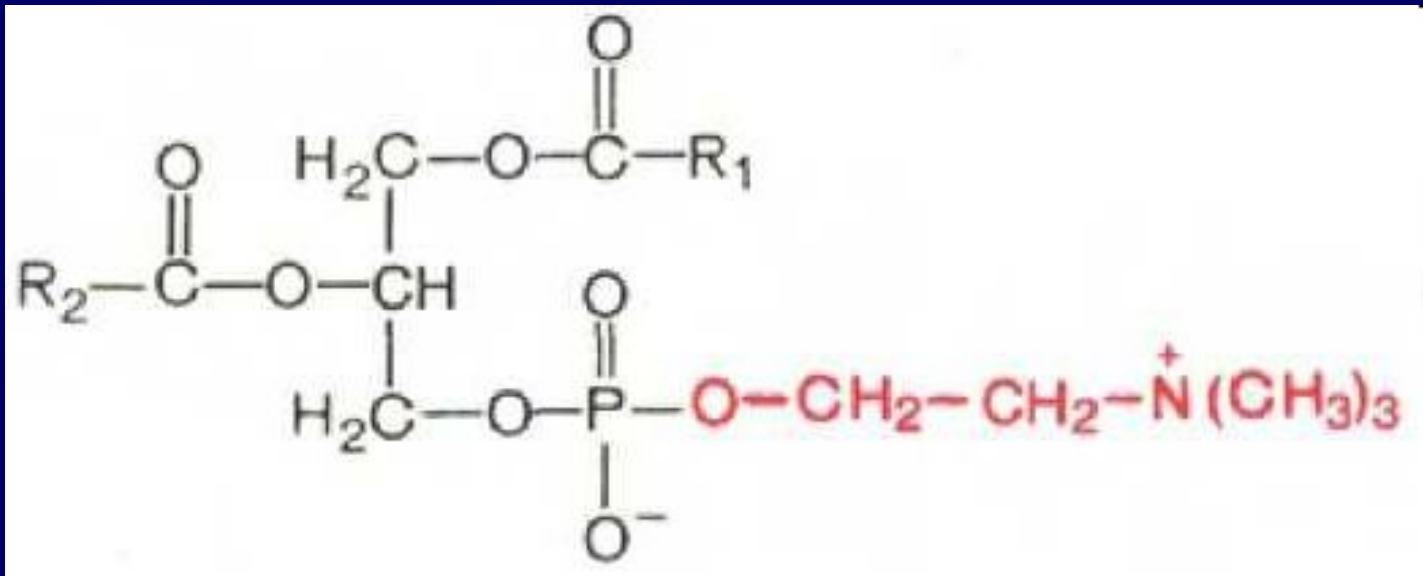
**Les membranes
biologiques. L'organisation
structurale.**

**La participation
des membranes
à l'organisation
et à la régulation
du métabolisme
de la cellule.**

LES LIPIDES MEMBRANAIRES

1. LES PHOSPHOLIPIDES:

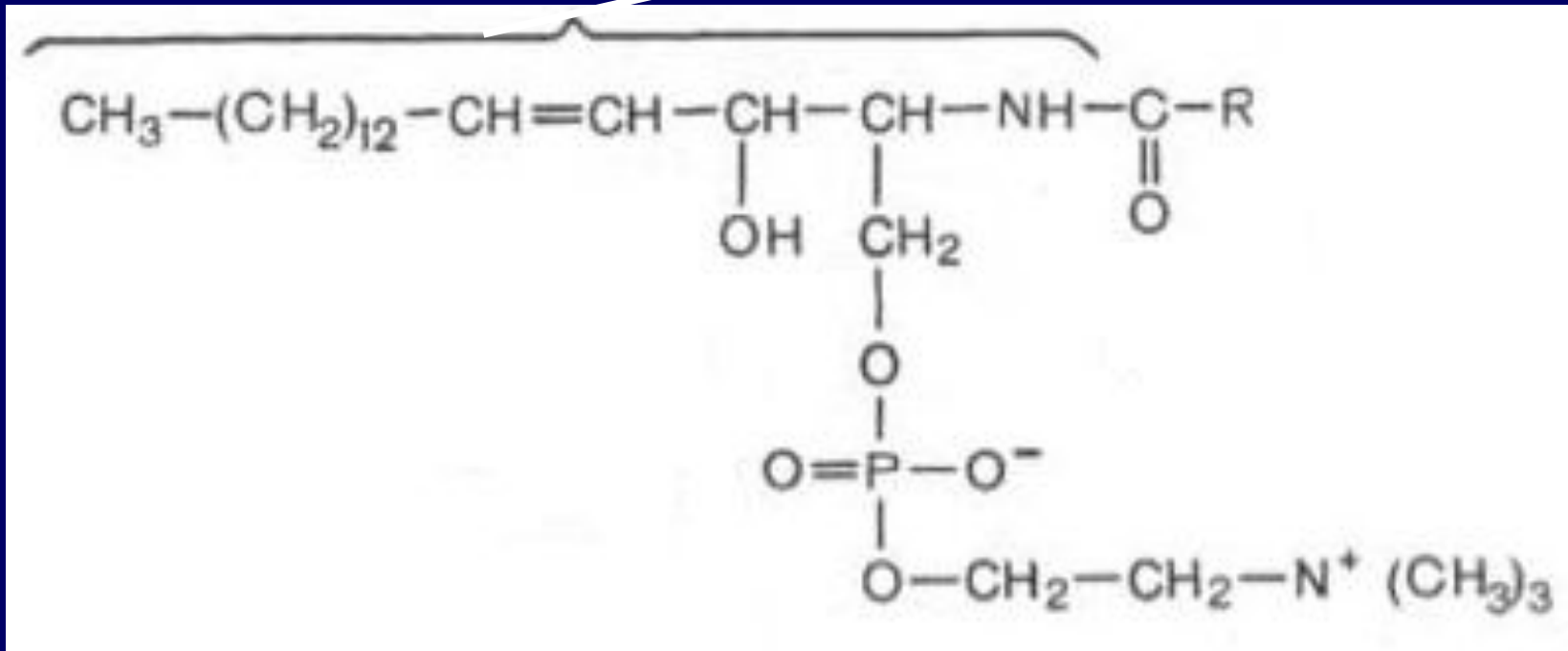
- **GLYCEROPHOSPHOLIPIDES**
- **SPHINGOPHOSPHOLIPIDES**



LA PHOSPHATIDYLCHOLINE

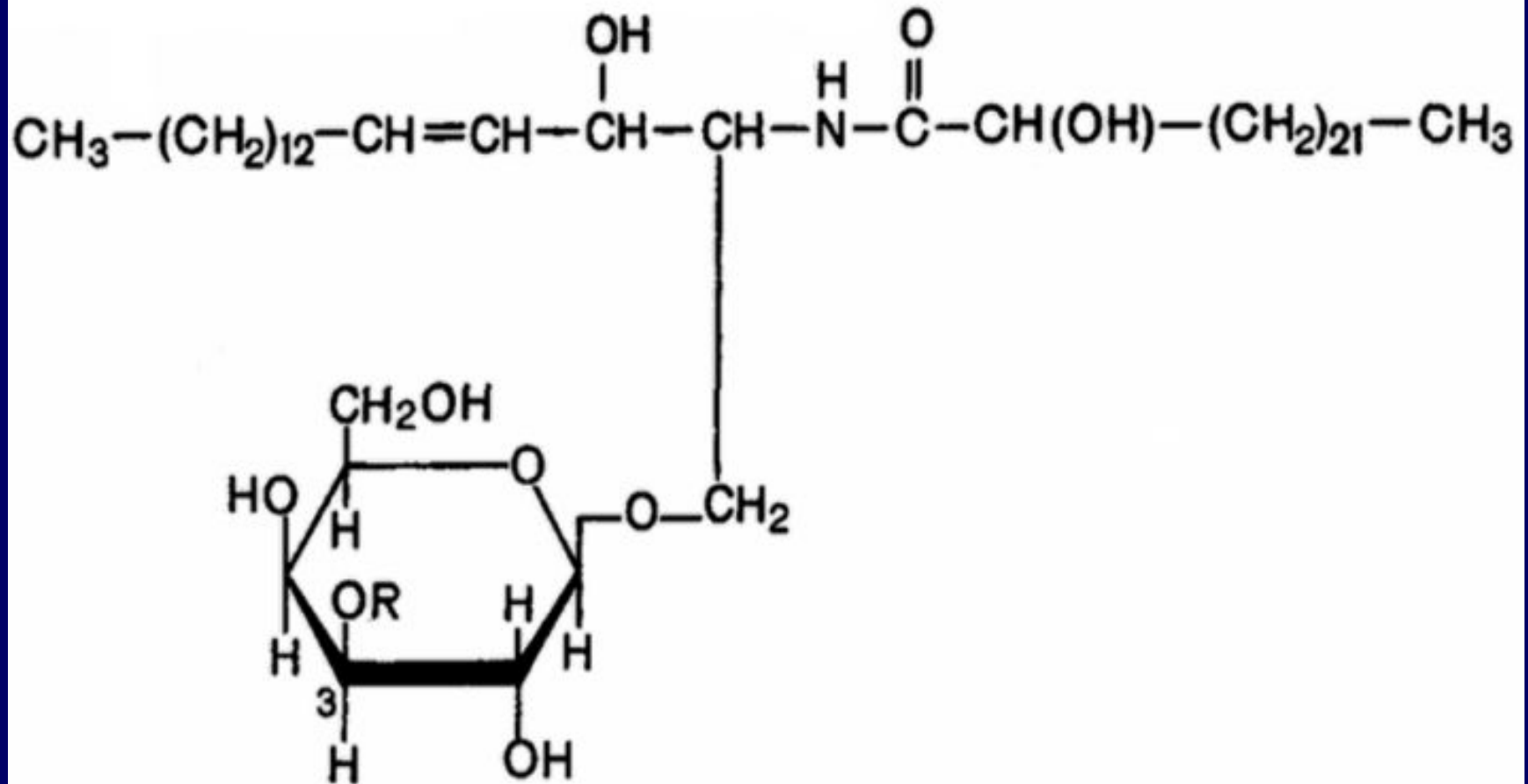
2. LES SPHINGOLIPIDES (SPHINGOMYELINE)

LA SPHINGOSINE



LA SPHINGOMYELINE

3. LES GLYCOLIPIDES



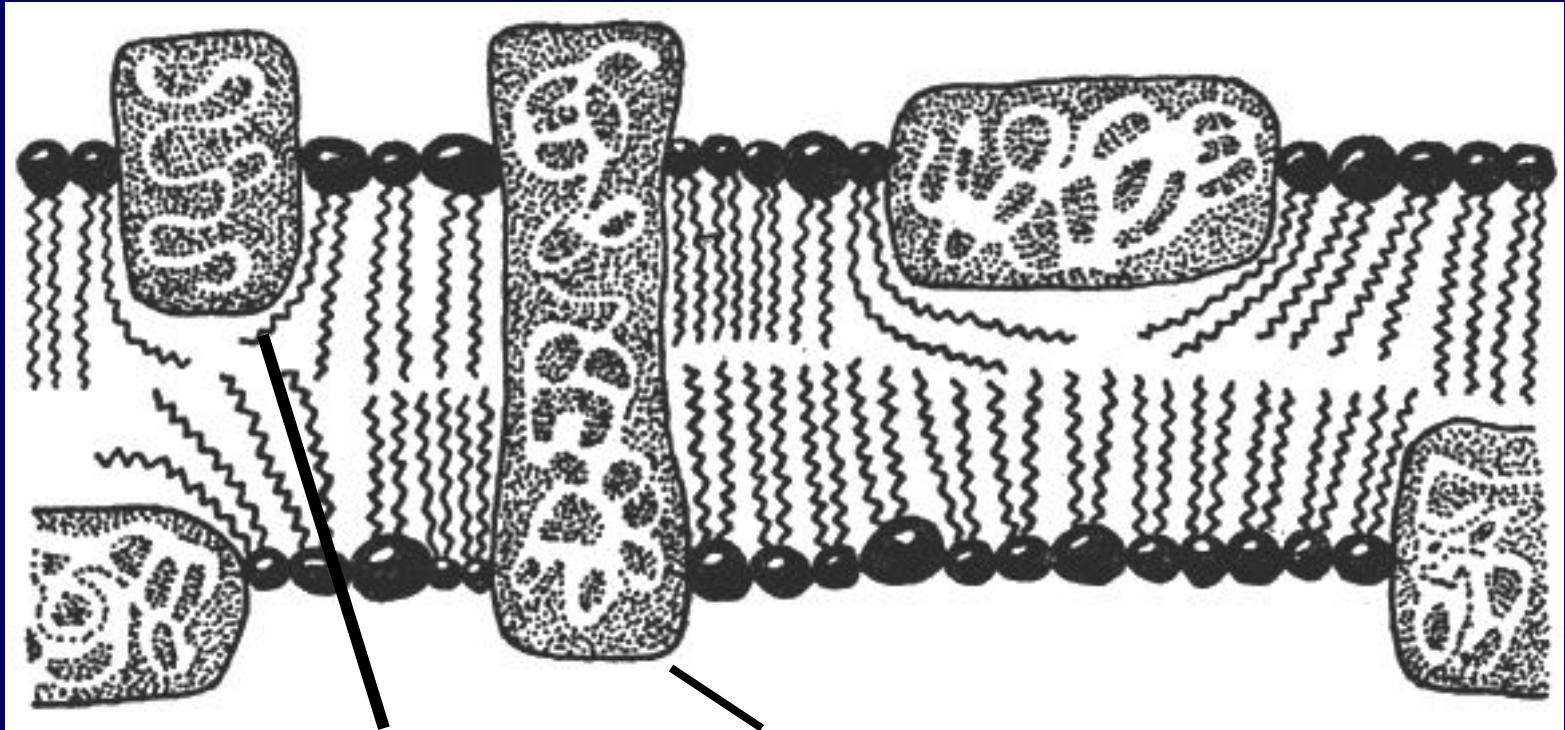
LE GALACTOSYLCERAMIDE

4. LES STEROIDES



LE CHOLESTEROL

LES PROTEINES MEMBRANAIRES

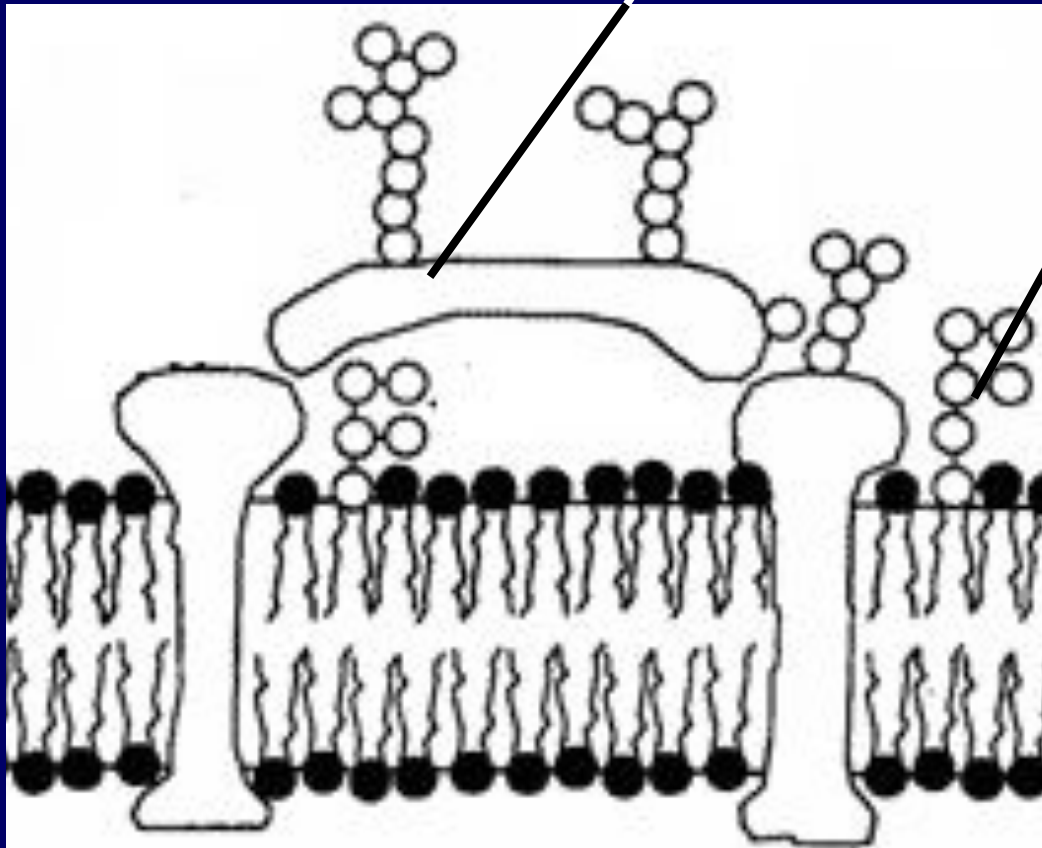


INTEGRALES

PERIPHERIQUES

LA COMPOSITION DE LA MEMBRANE CELLULAIRE

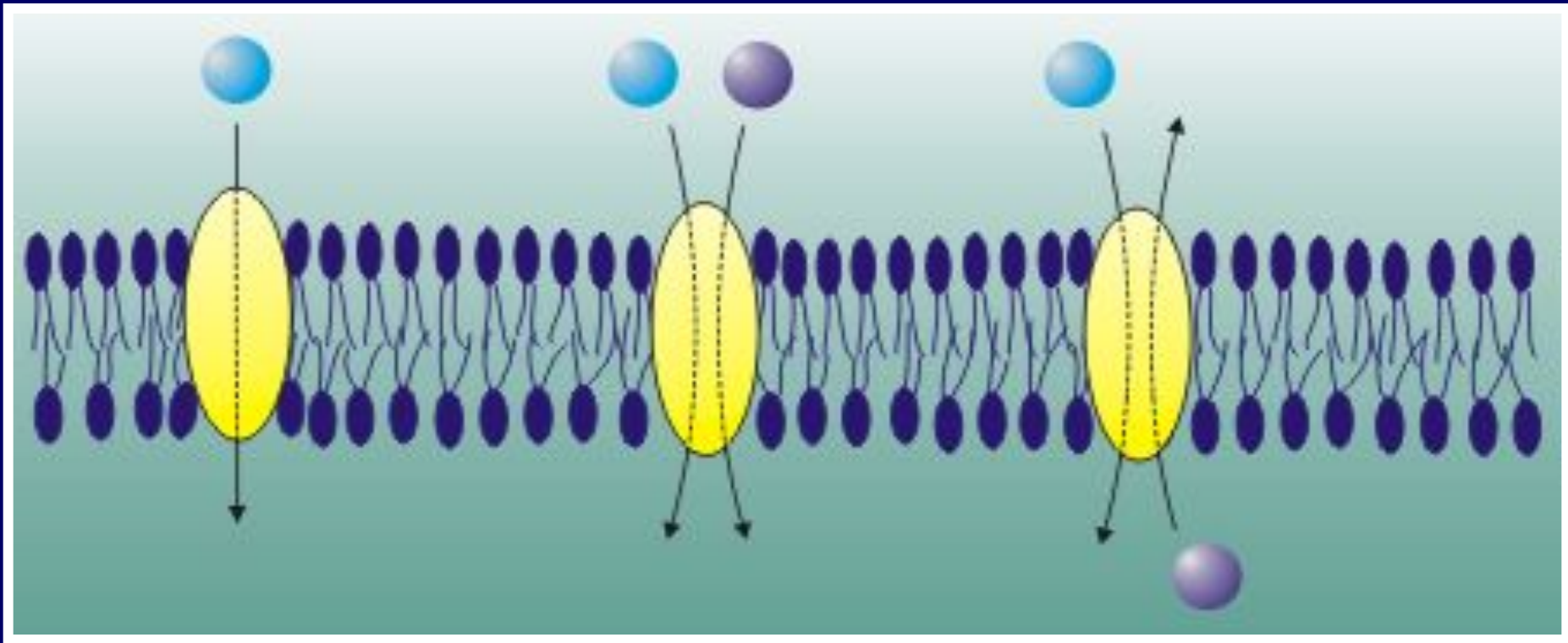
LA PROTEINE GLYCOSYLEE



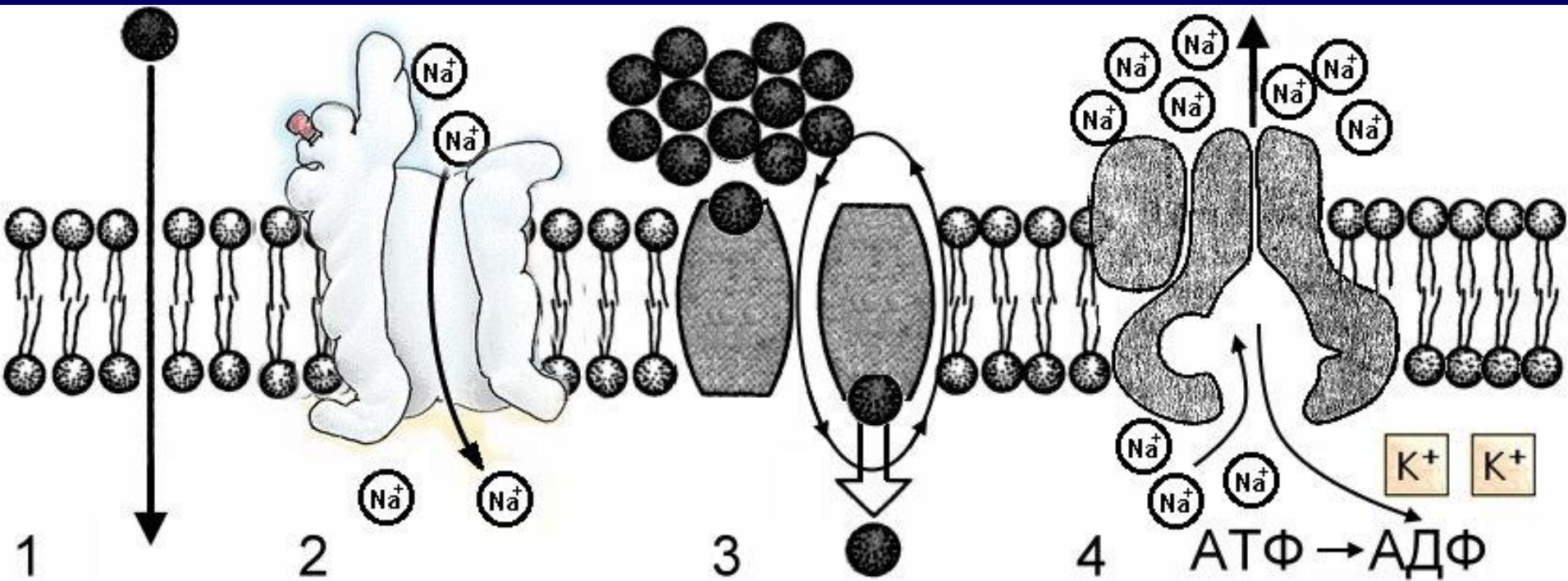
**LE
GLYCOLIPIDE**

**LA COUCHE
BILIPIDIQUE**

LE TRANSPORT DES SUBSTANCES A TRAVERS LA MEMBRANE



L'UNIORT LE SYMPORT L'ANTIORT



LA DIFFUSION:

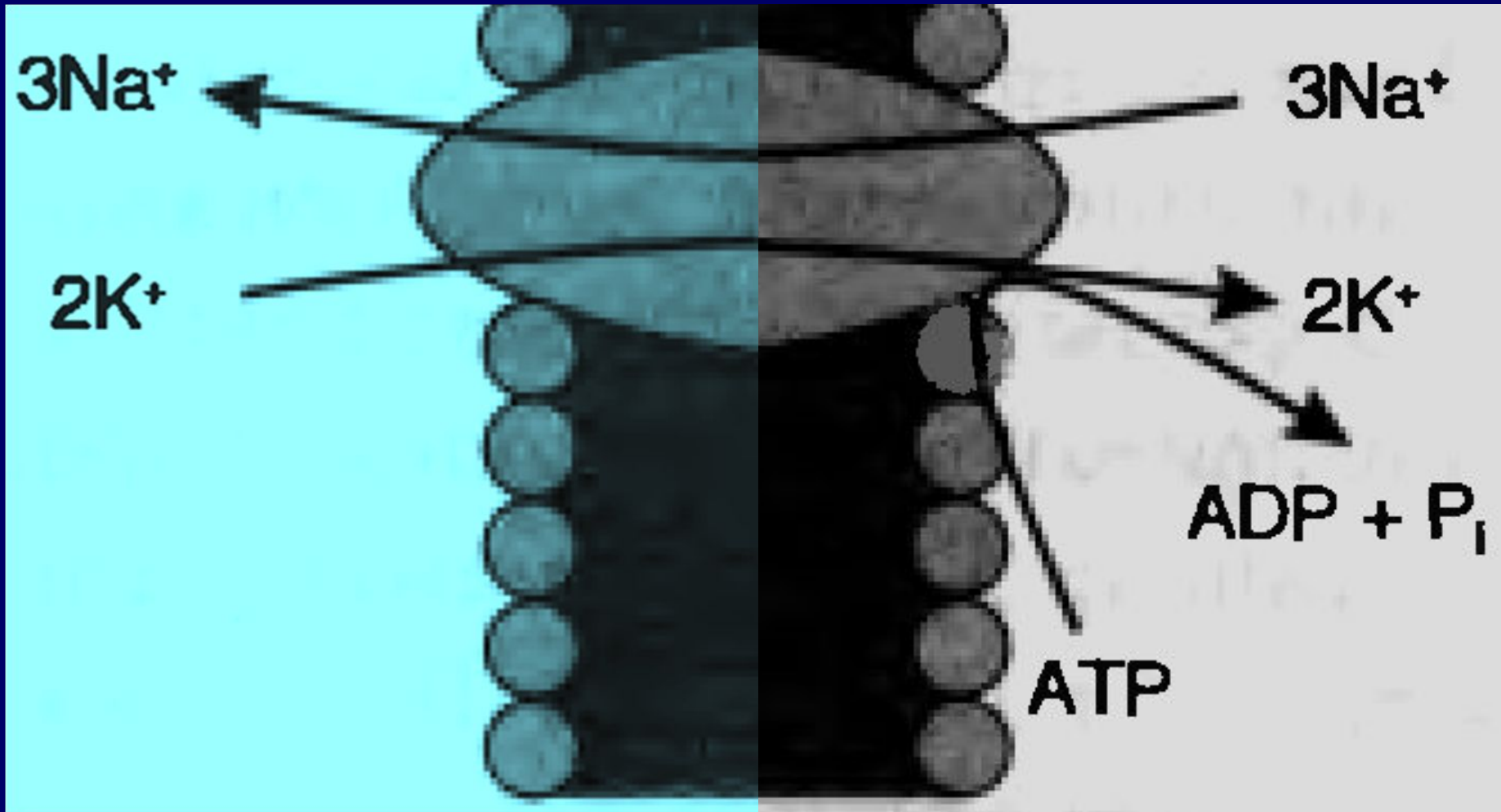
1 - PASSIVE;

2 - A L'AIDE DU CANAL IONIQUE;

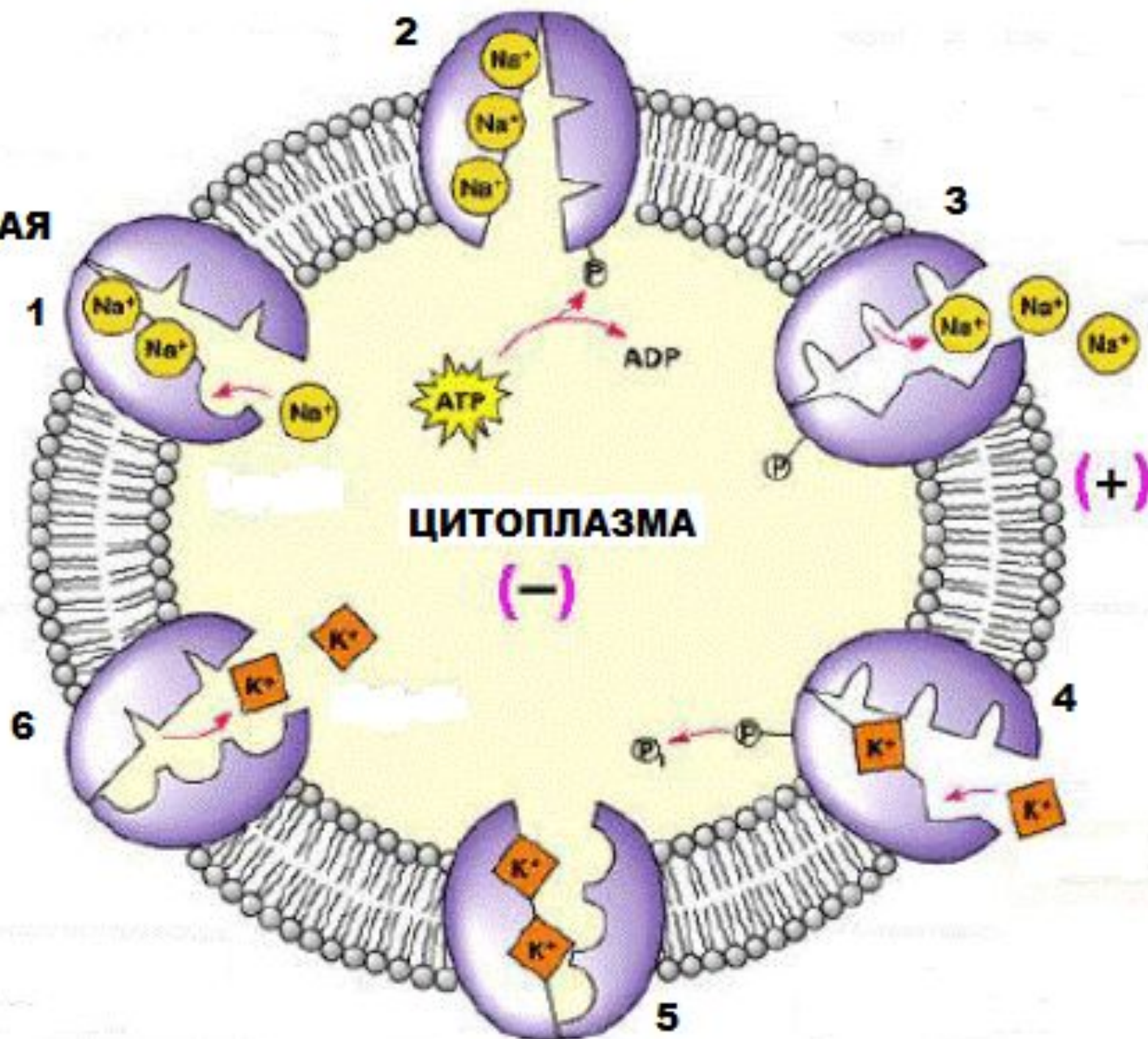
3 - A L'AIDE DE LA TRANSFERASE;

4 - LE TRANSPORT ACTIF

Na^+ , K^+ - ATP-ase

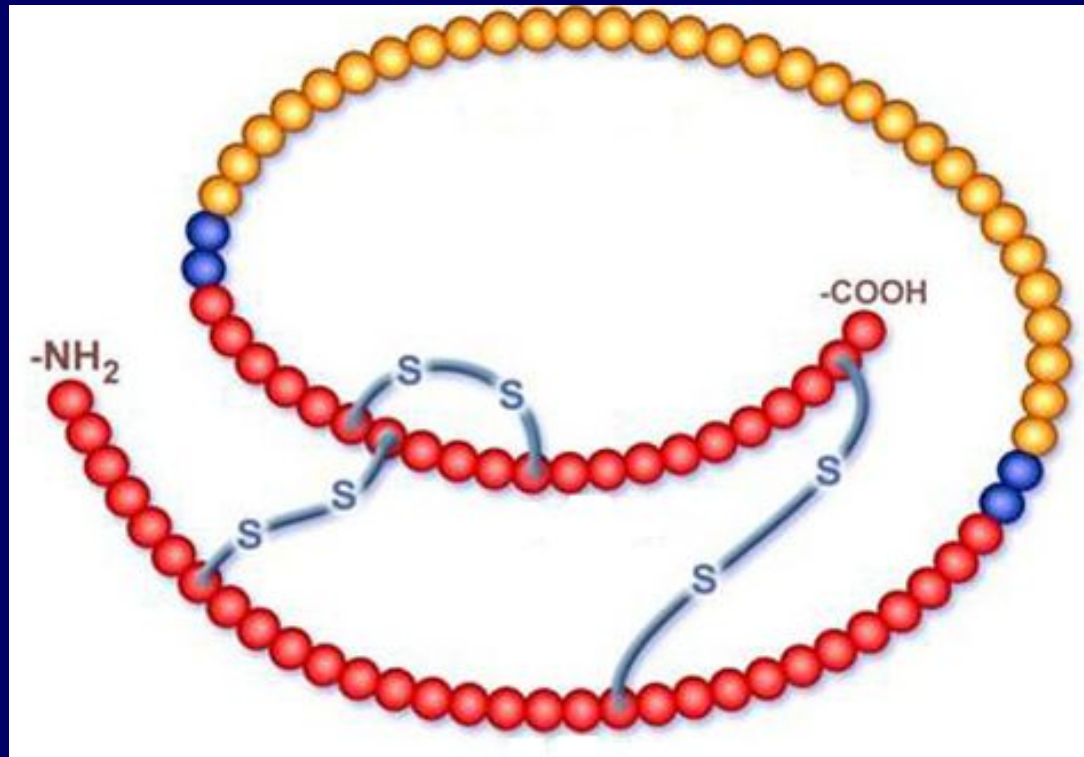


**ВНЕКЛЕТОЧНАЯ
СРЕДА**



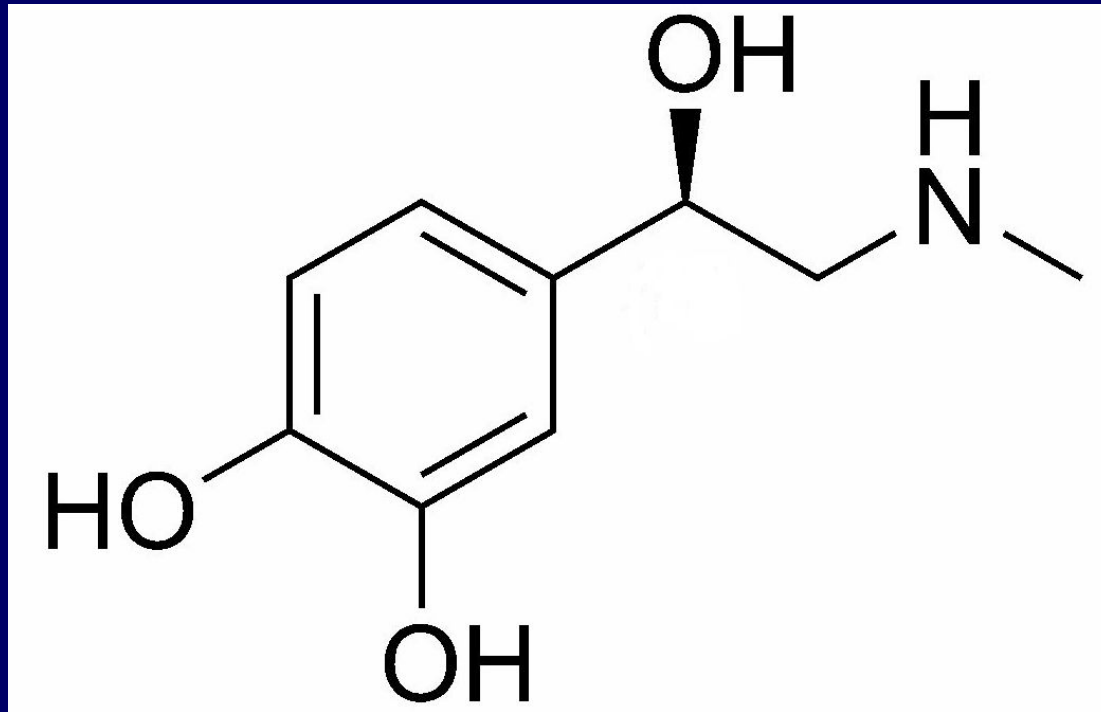
LA CLASSIFICATION DES HORMONES

1. PEPTIDIQUES ET PROTEIQUES



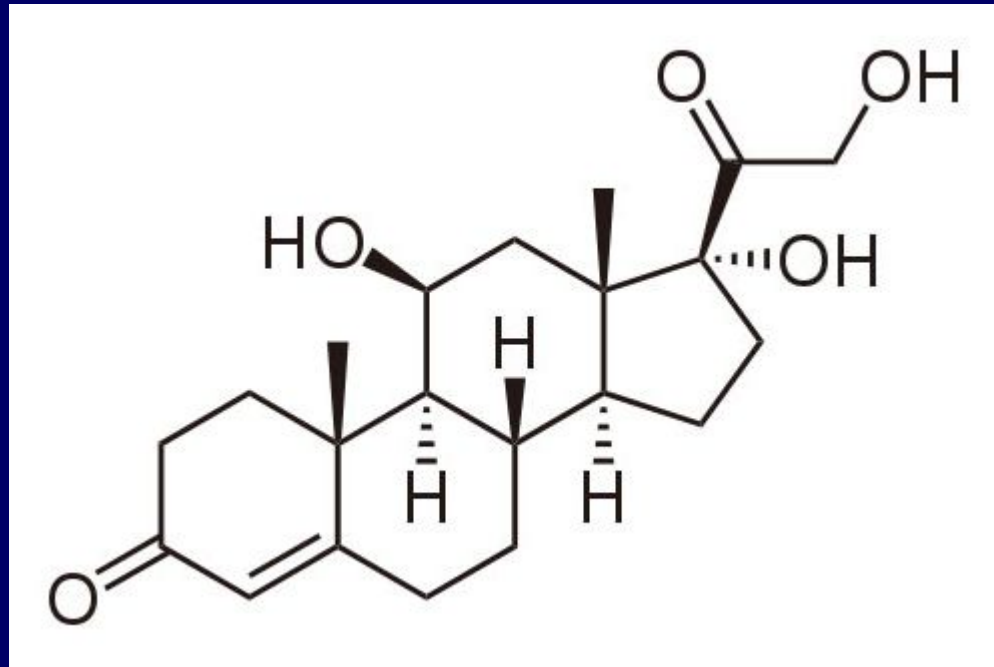
L'INSULINE

2. LES DERIVEES DES ACIDES AMINES



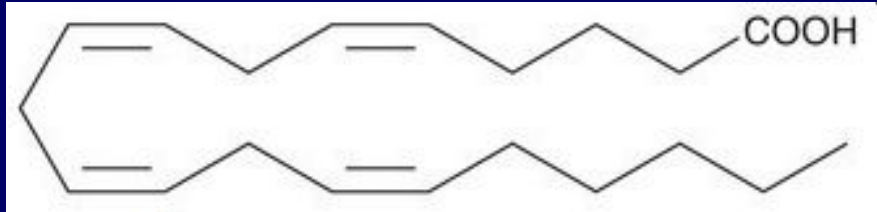
L'ADRENALINE

3. DE LA NATURE STEROIDE

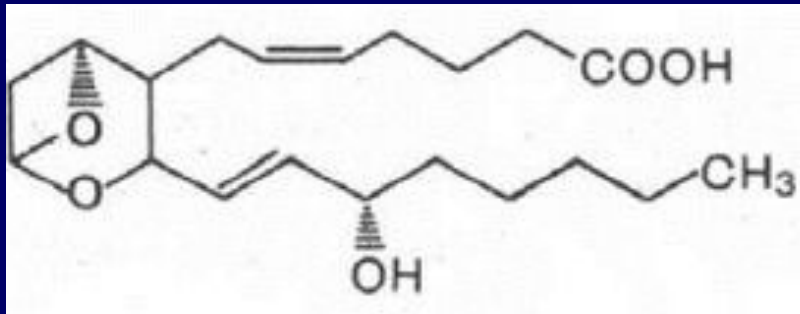


LE CORTISOL

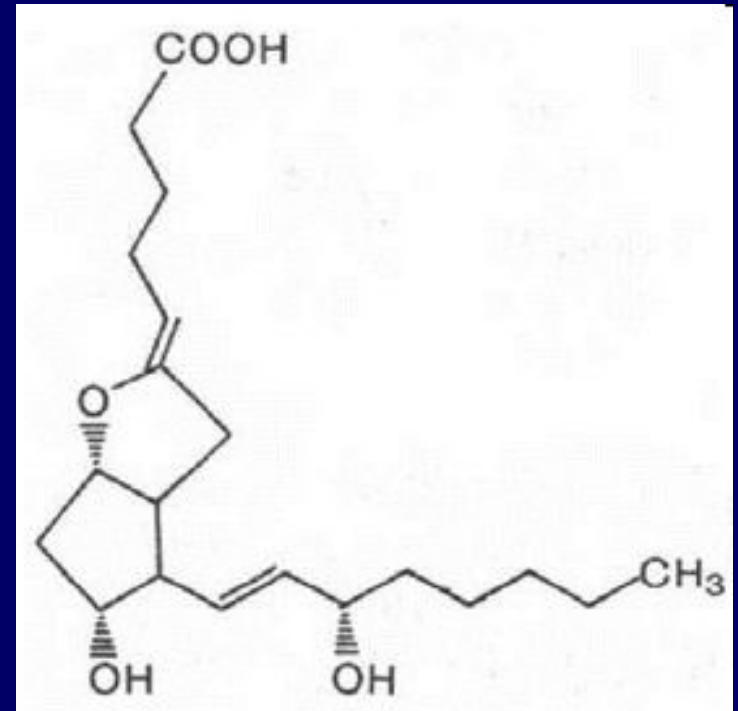
4. LES EICOSANOIDES



**L'ACIDE
ARACHIDONIQUE**



LE THROMBOXANE

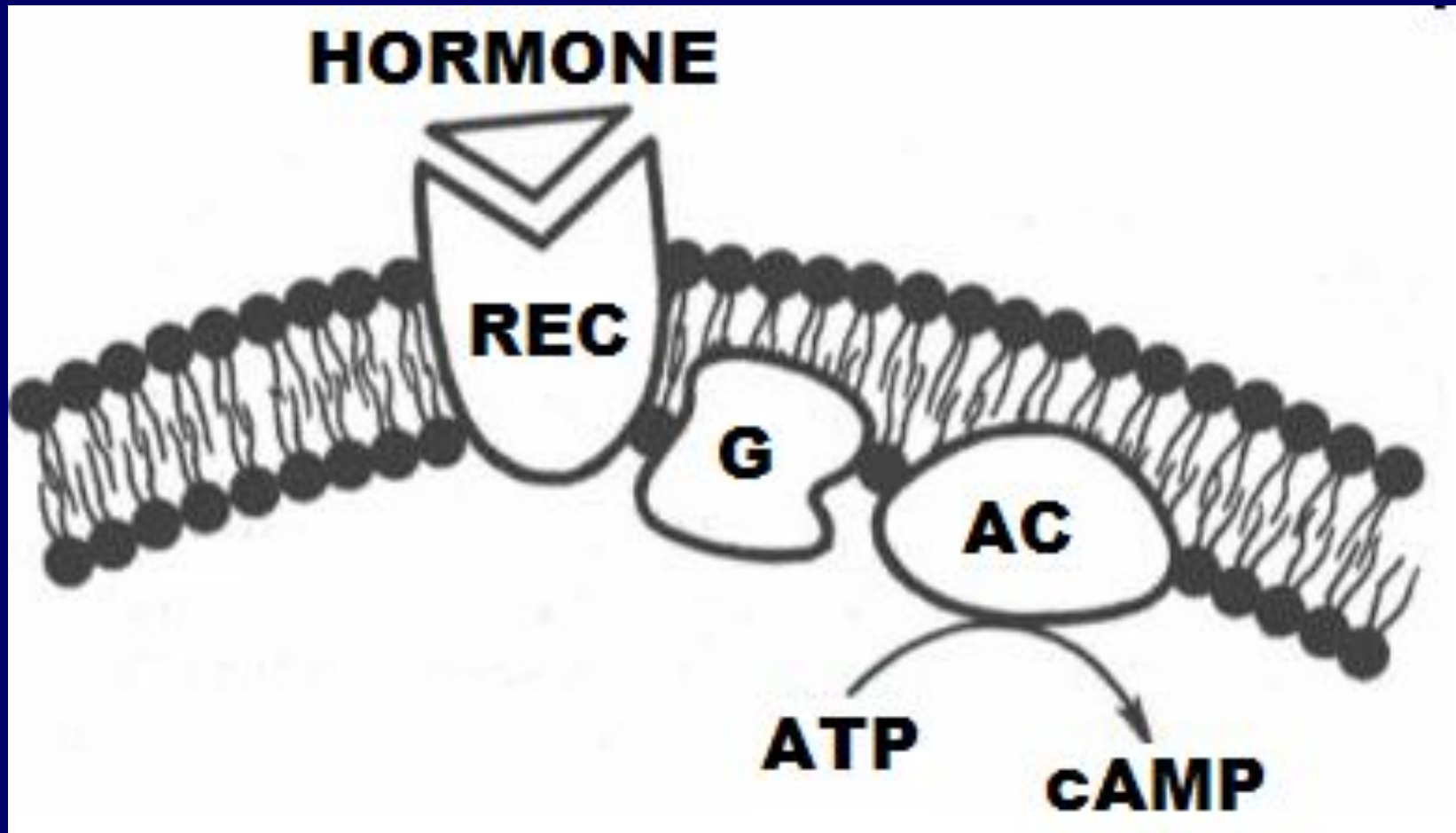


**LA
PROSTACYCLINE**

A_2

LES LEUCOTRIENES

LE SYSTEME D'ADENYLYLATE CYCLASE DES MESSAGERS



~~AMP_c~~

← PHOSPHODIESTERASE

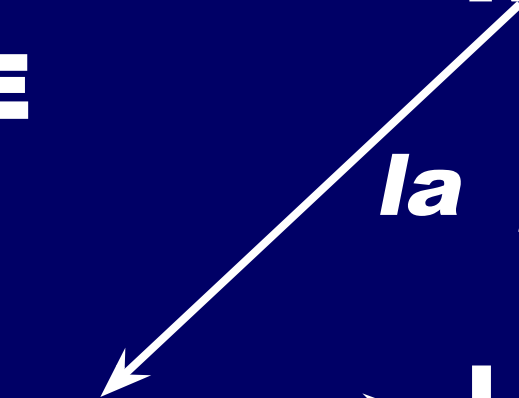
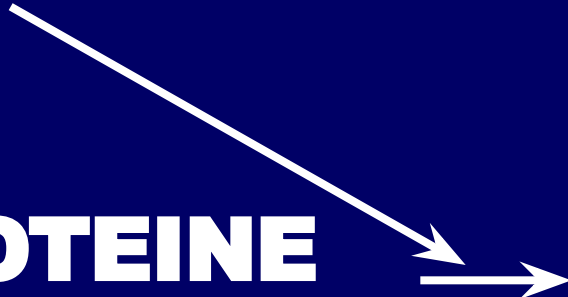
LA PROTEINE
KINASE
INACTIVE

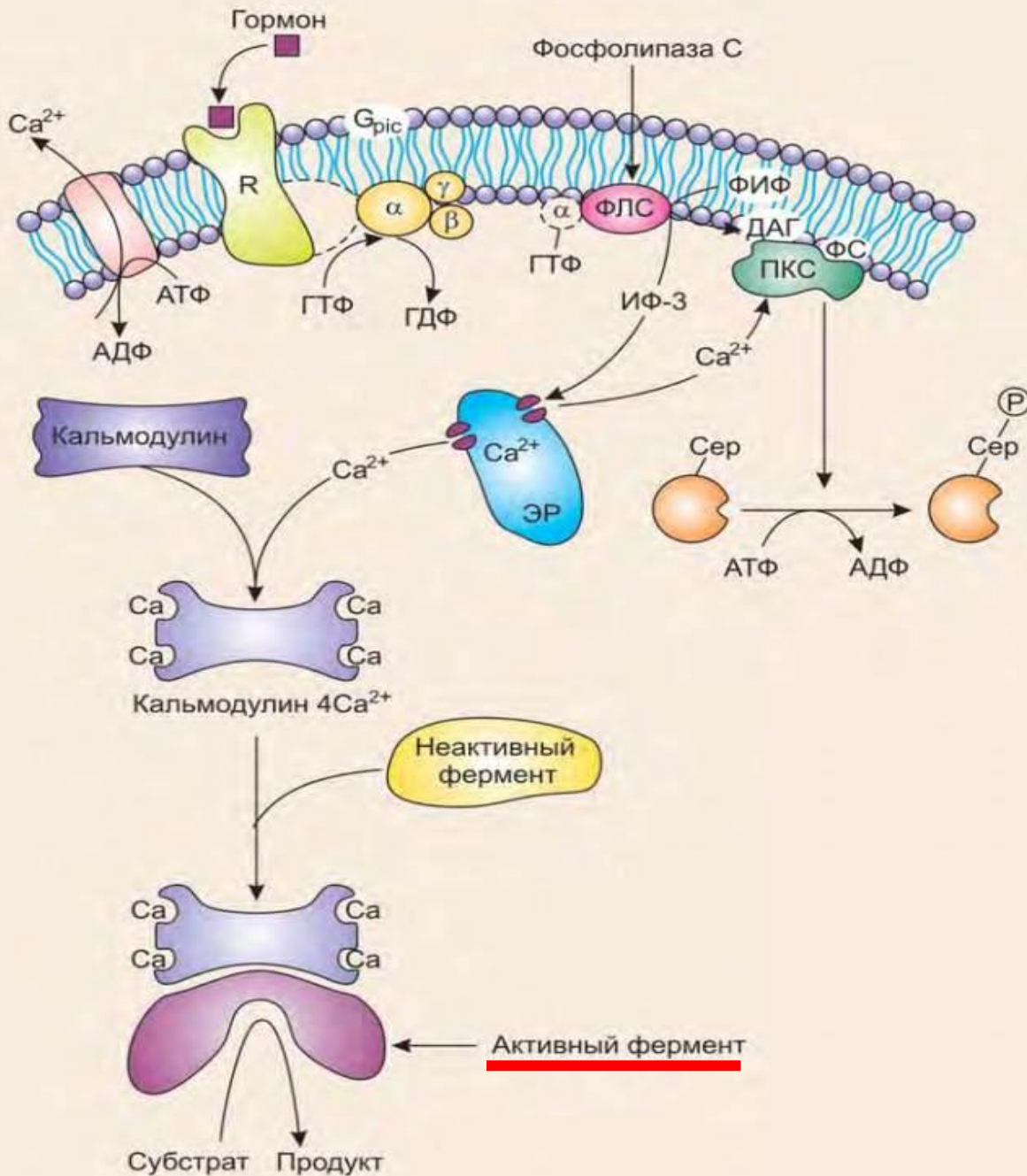
LA PROTEINE
KINASE **ACTIVE**

la phosphorylation

L'ENZYME
INACTIVE

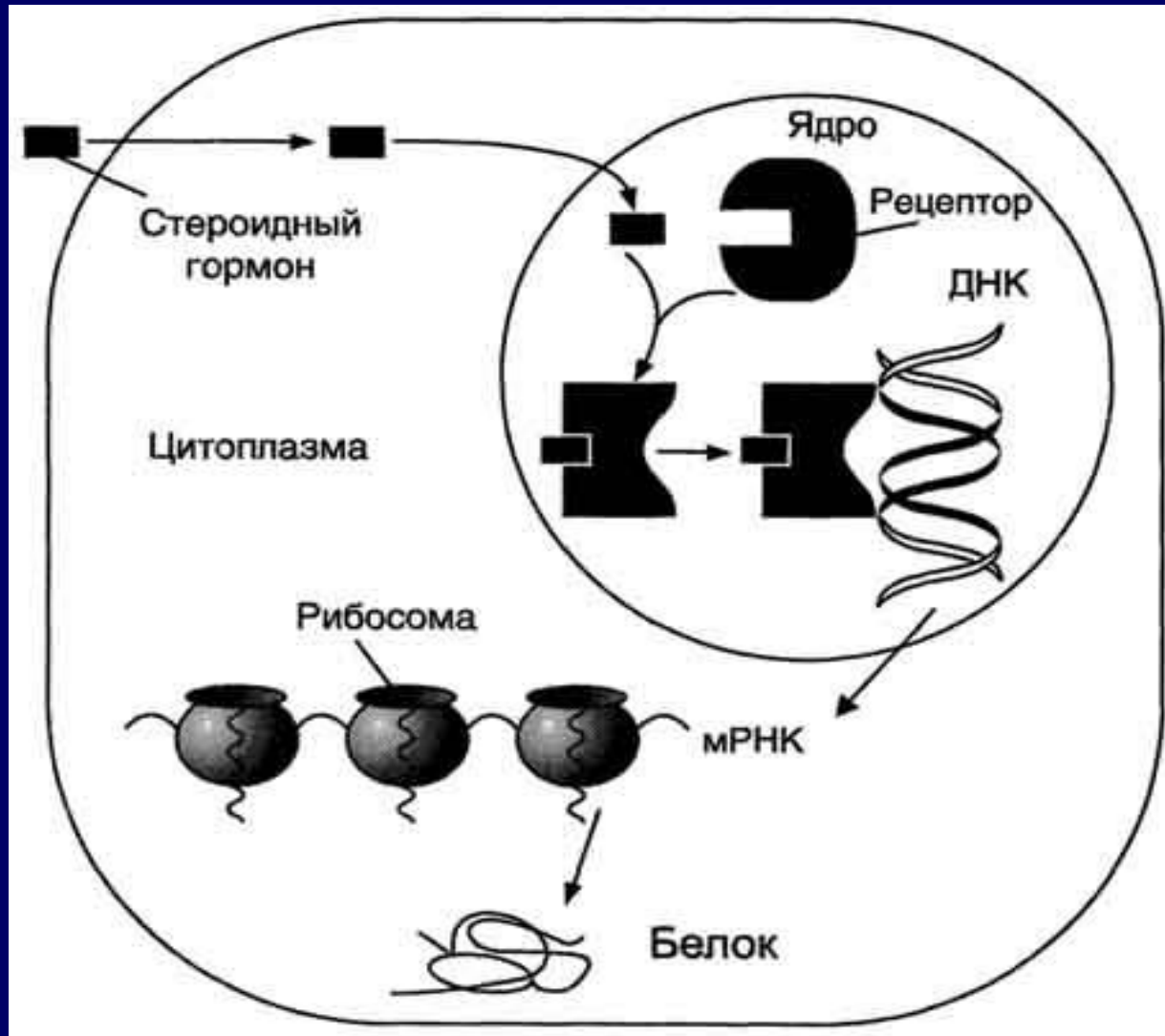
L'ENZYME
ACTIVE

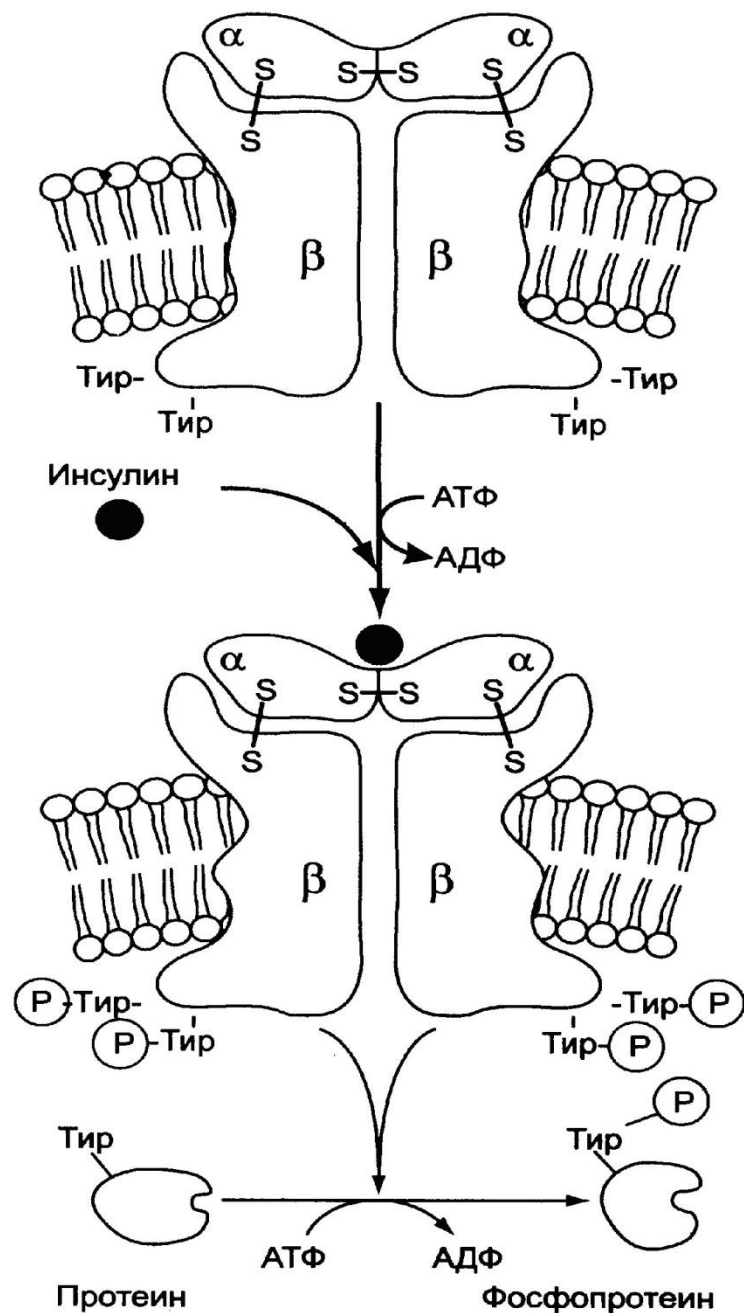




LE SYSTEME D'INOSITOL PHOSPHATE DES MESSAGERS

LA RECEPTION INTRACELLULAIRE





LES RECEPTEURS A ACTIVITE TYROSINE KINASE