LA CELULA

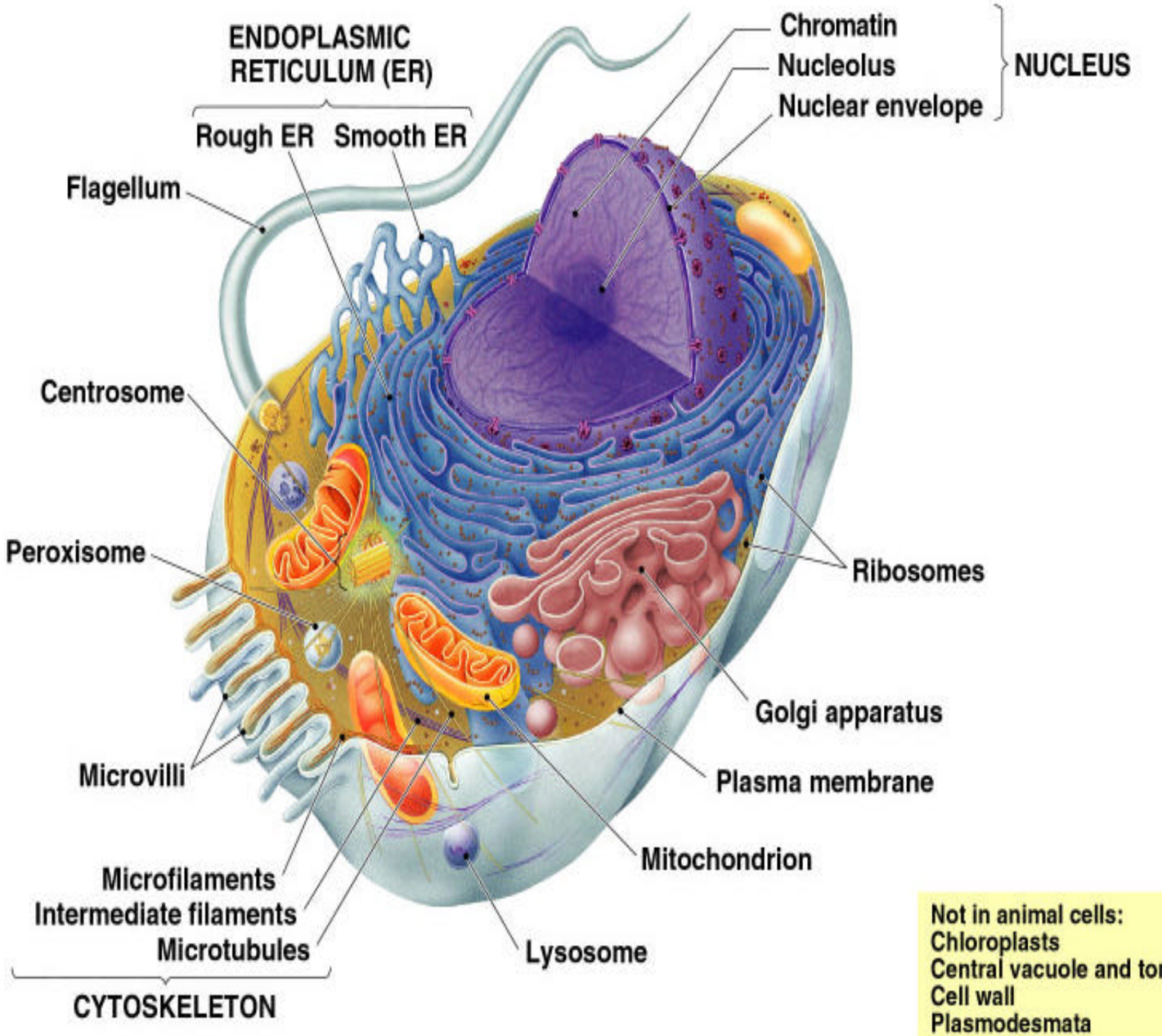
TRANSPORTE ATRAVES DE MEMBRANA

DIVISION CELULAR

DRA. L. CUEVAS

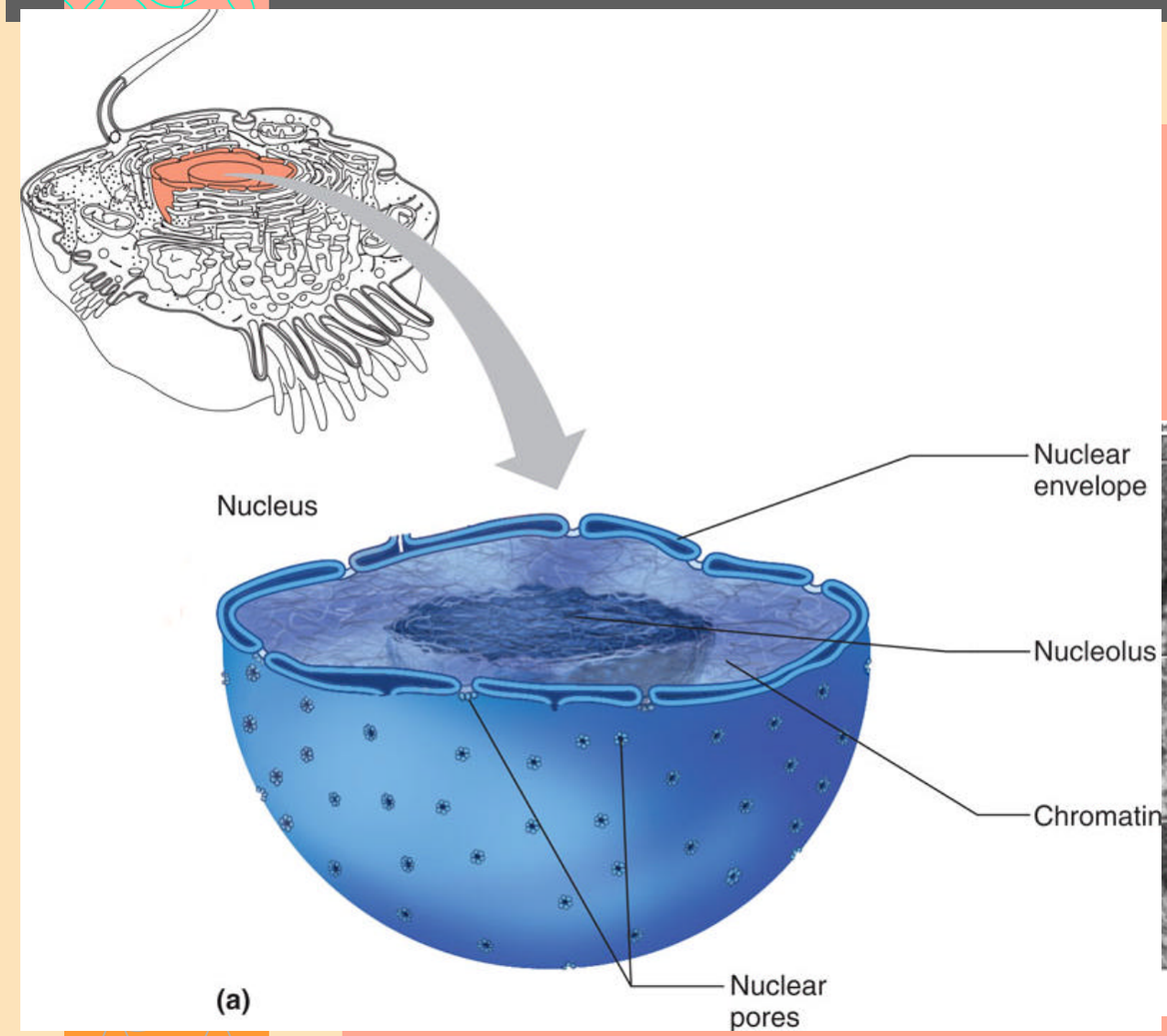
NURS 1231

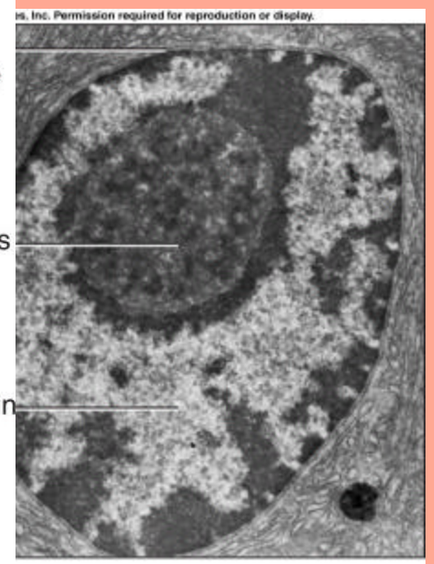
CELULA



Not in animal cells:
Chloroplasts
Central vacuole and tonoplast
Cell wall
Plasmodesmata

NUCLEO / NUCLEOLO





RIBOSOMAS

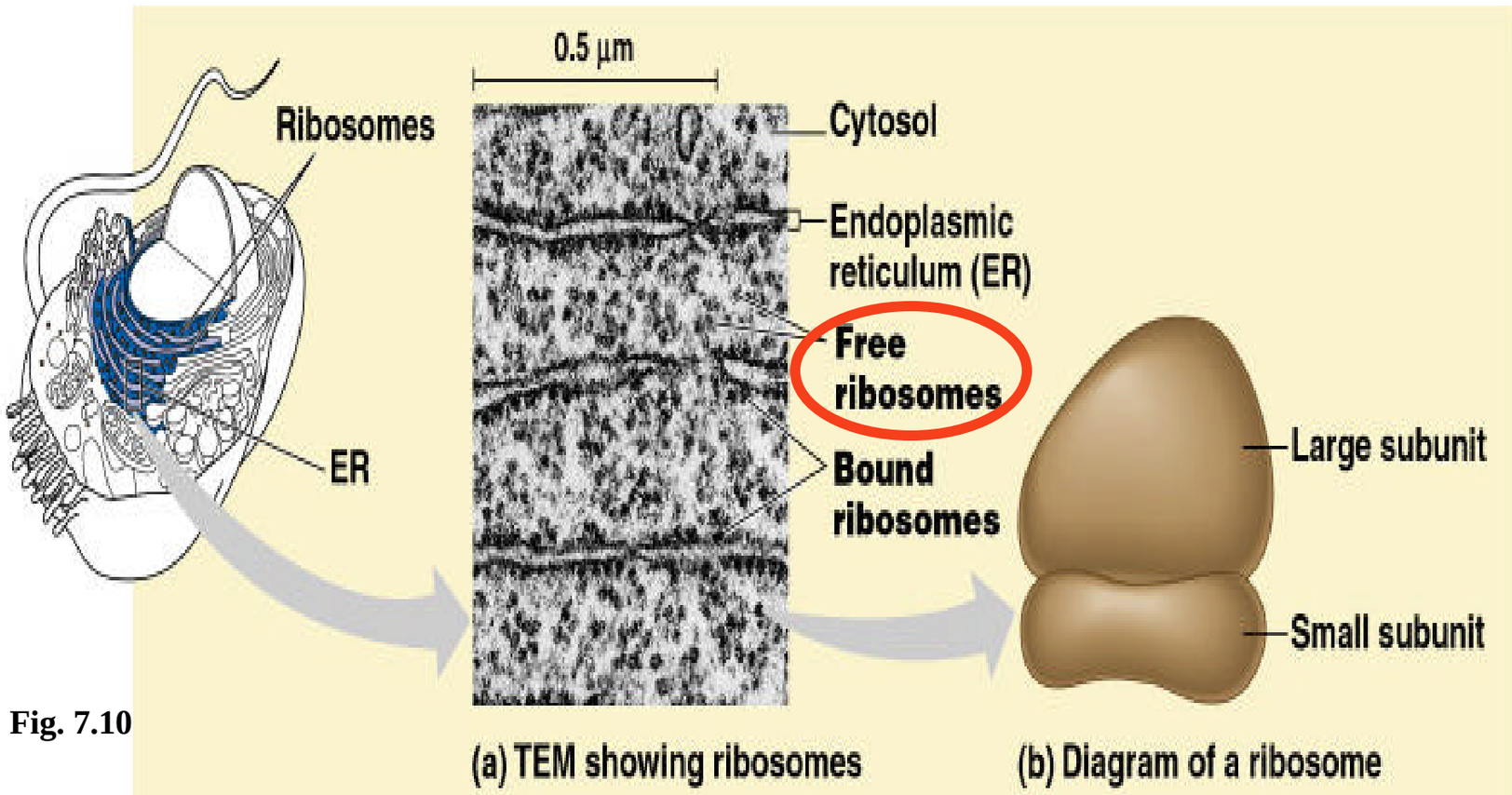
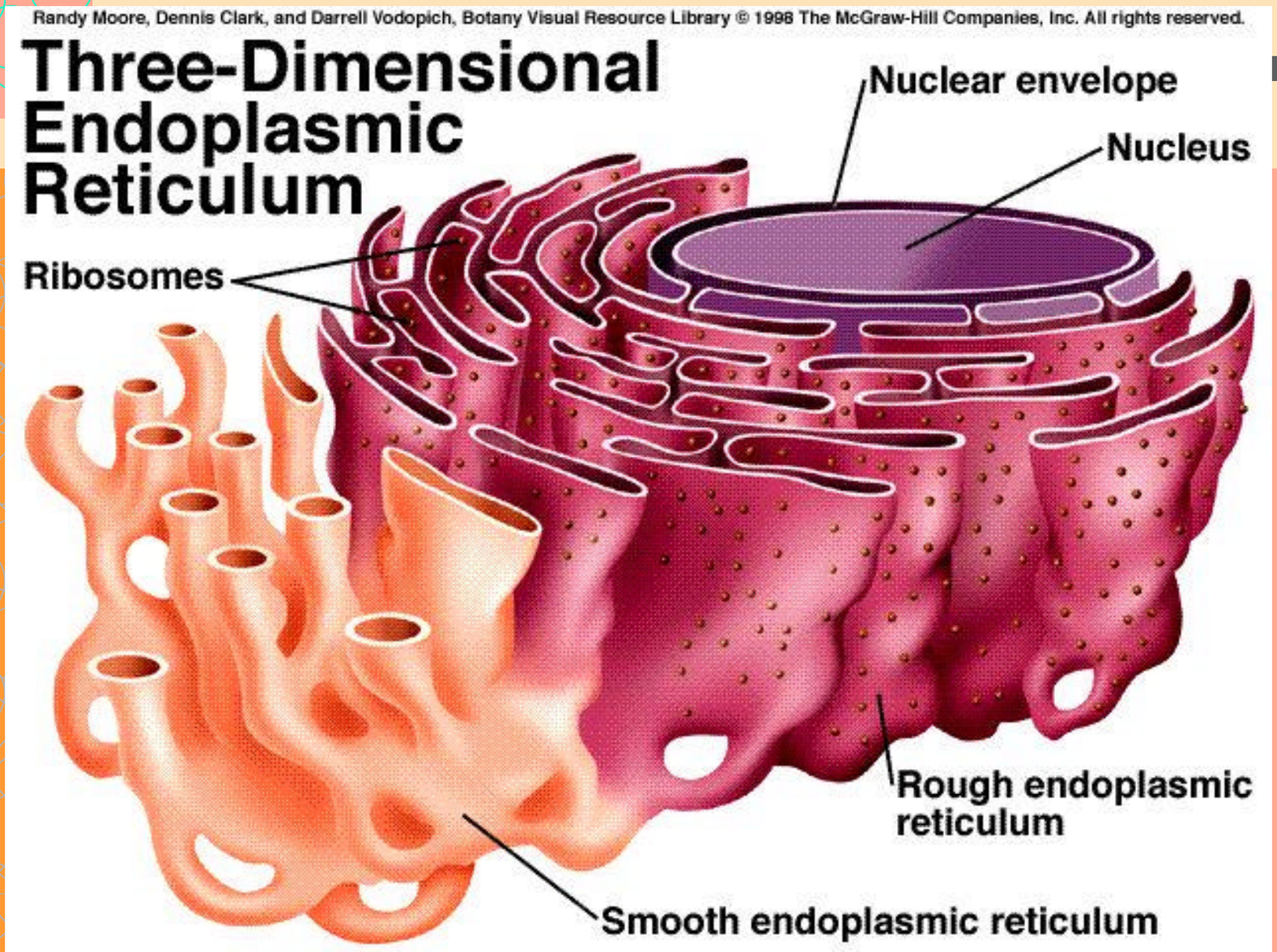
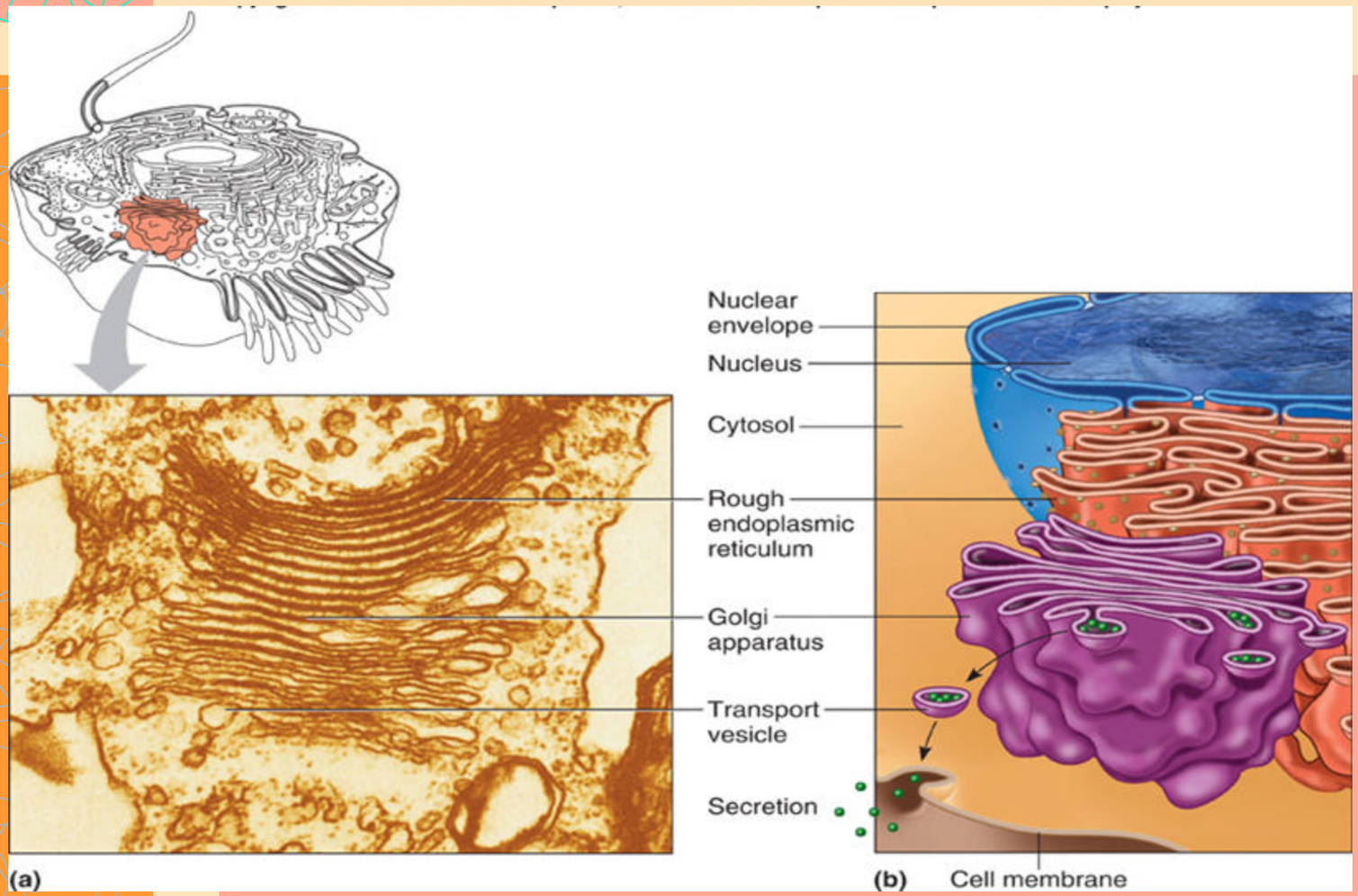


Fig. 7.10

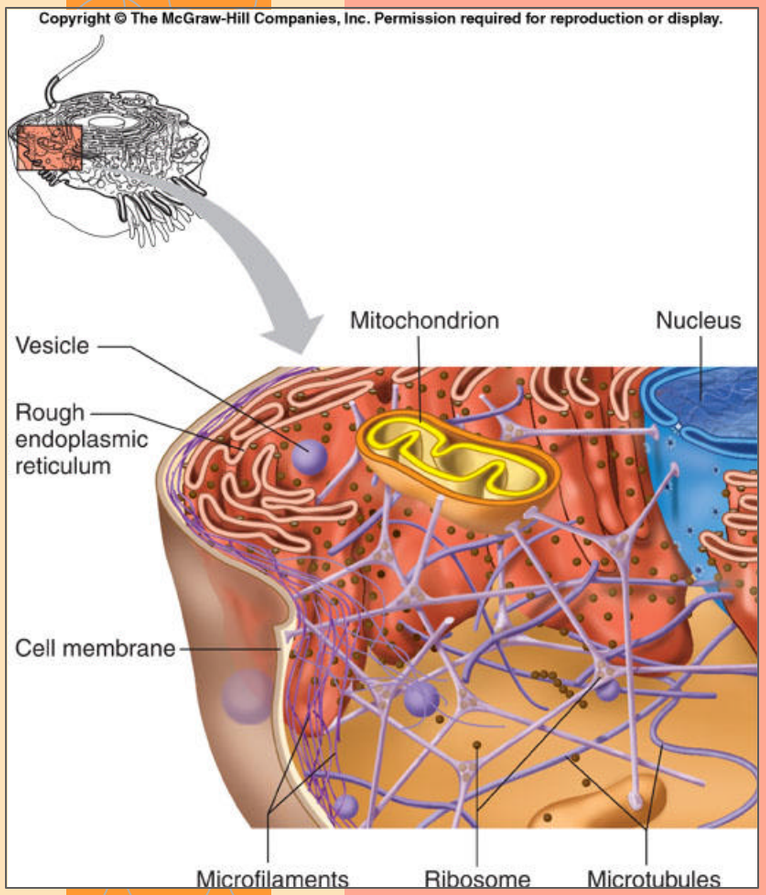
RETICULO ENDOPLASMICO

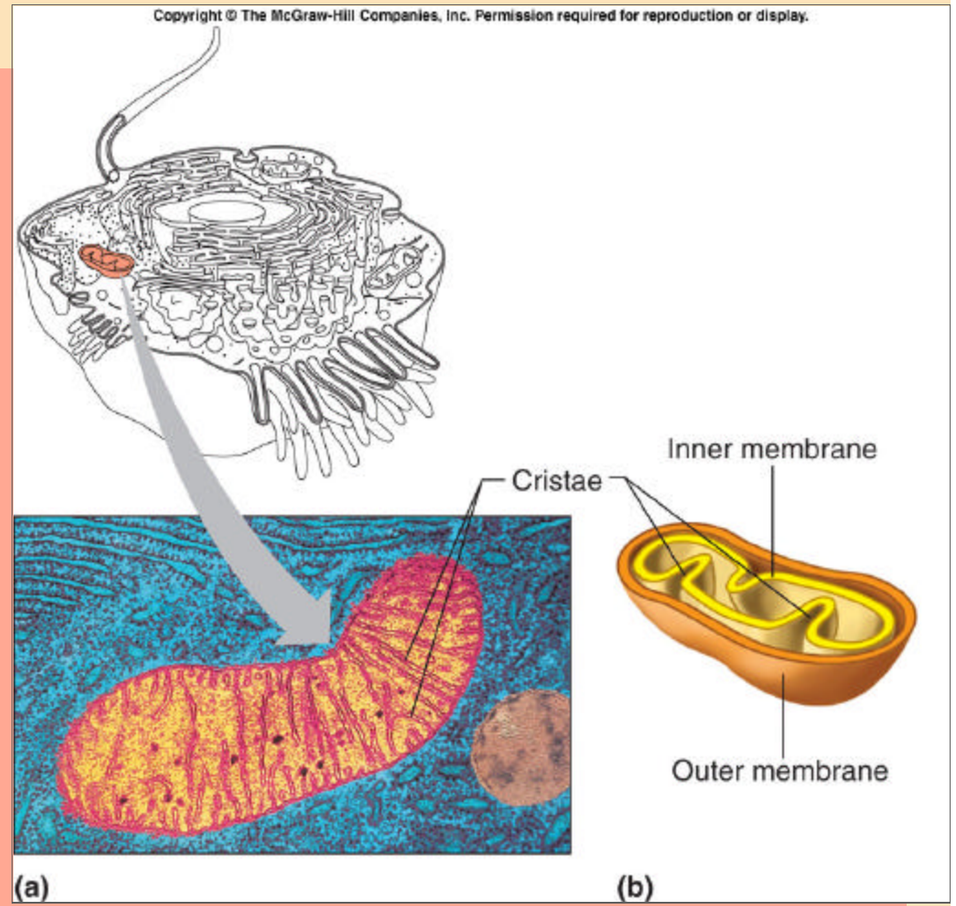


APARATO DE GOLGI

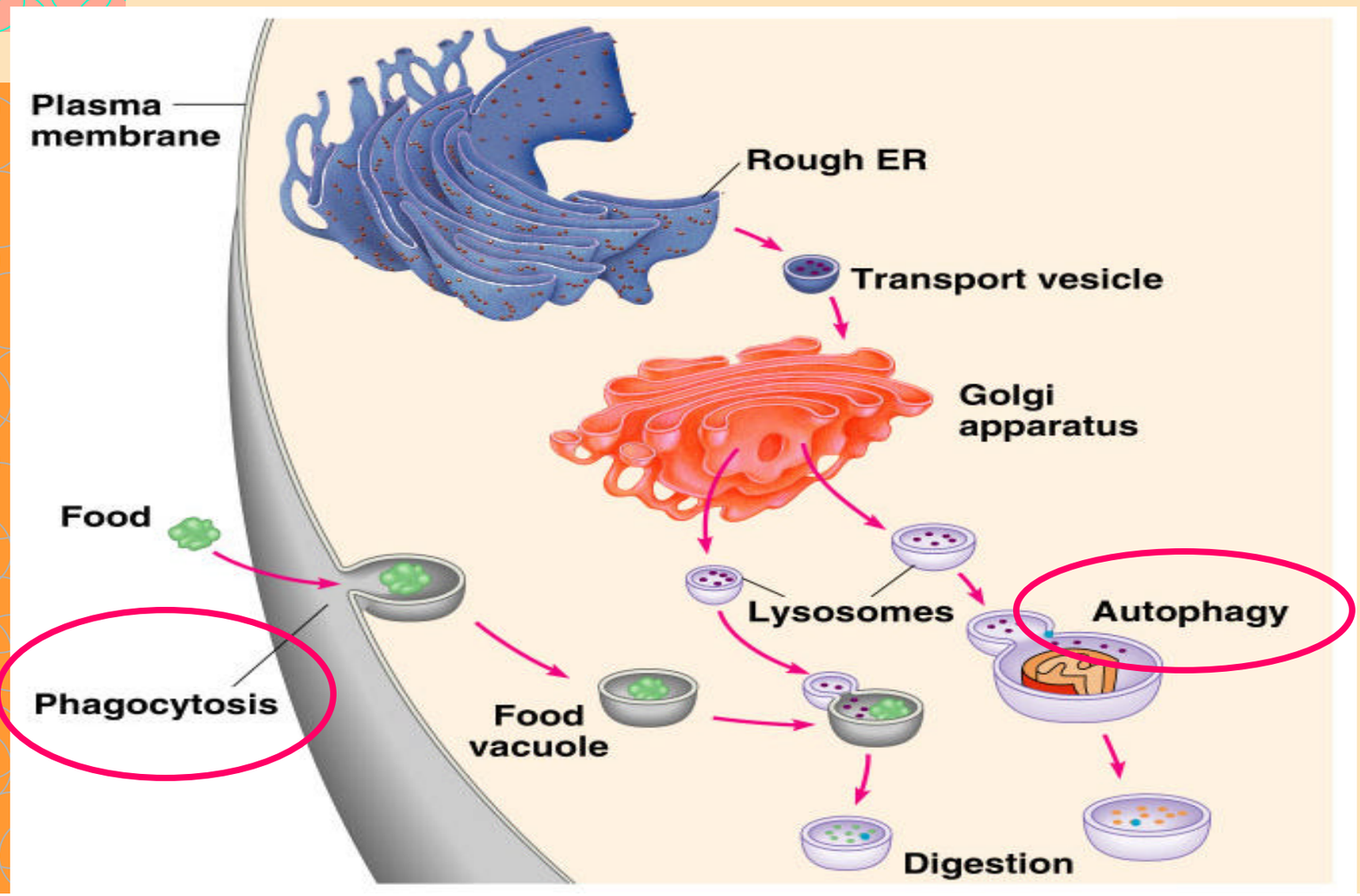


MITOCONDRIO

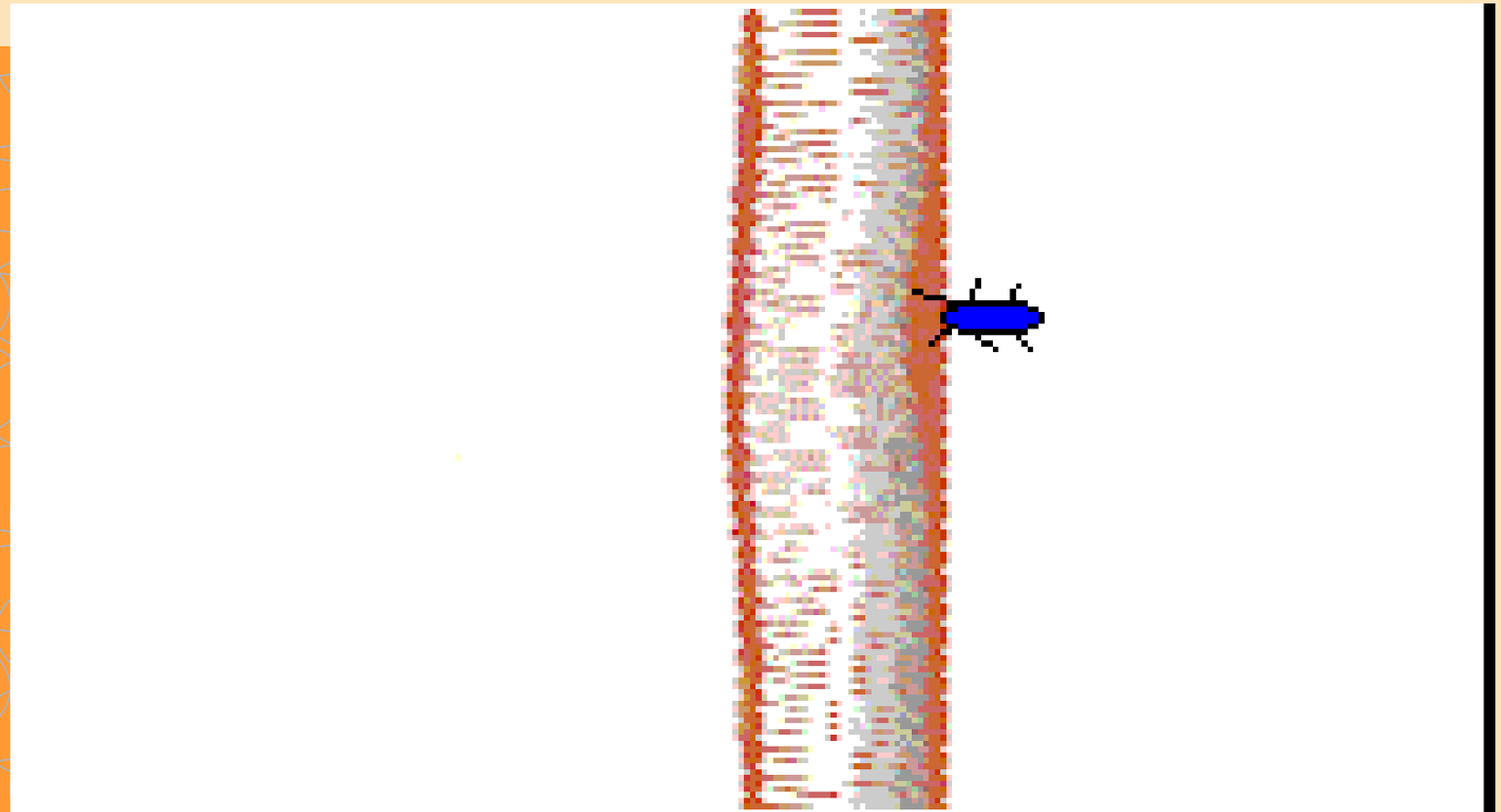




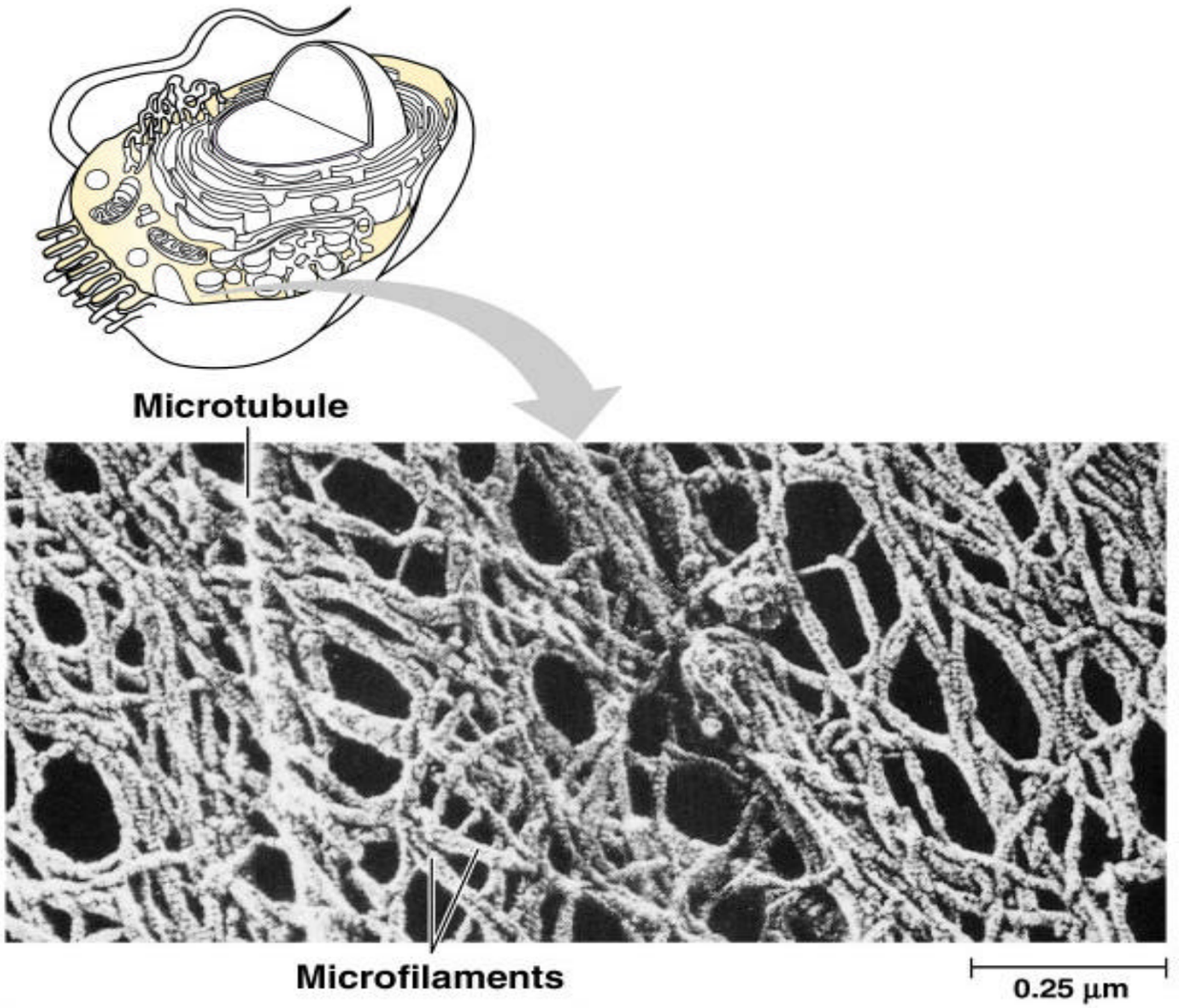
LISOSOMAS


Plasma membrane
Rough ER
Transport vesicle
Golgi apparatus
Food
Lysosomes
Autophagy
Phagocytosis
Food vacuole
Digestion

FAGOCITOSIS



CITOESQUELETO



CILIOS Y FLAGELOS

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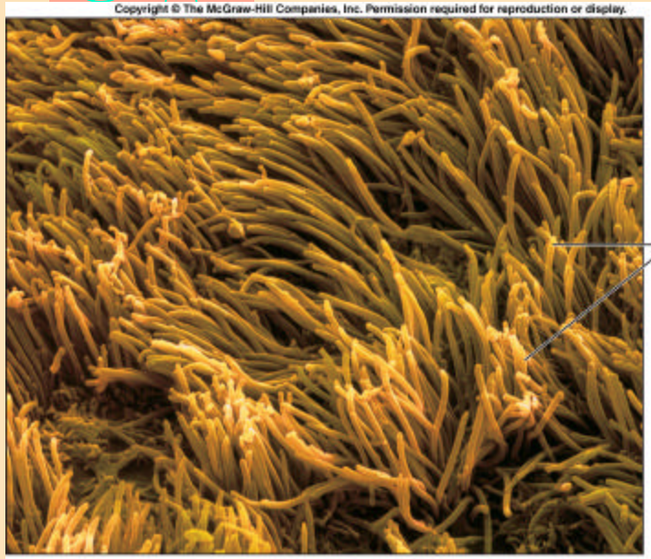

(a)

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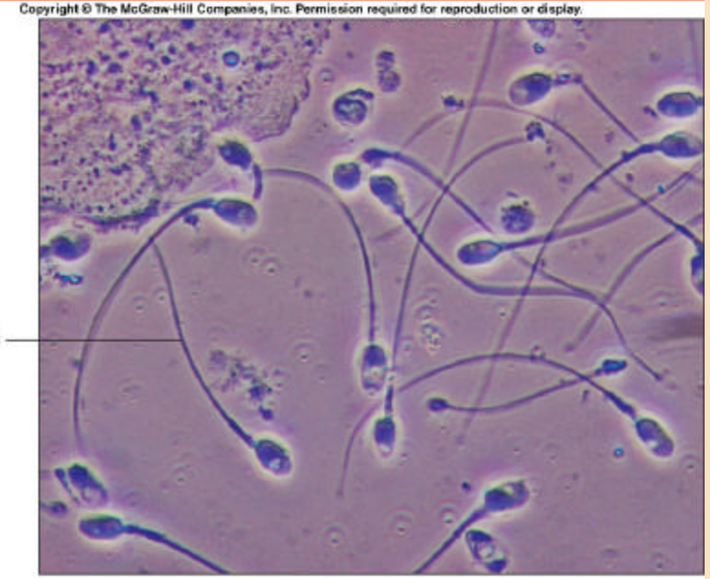
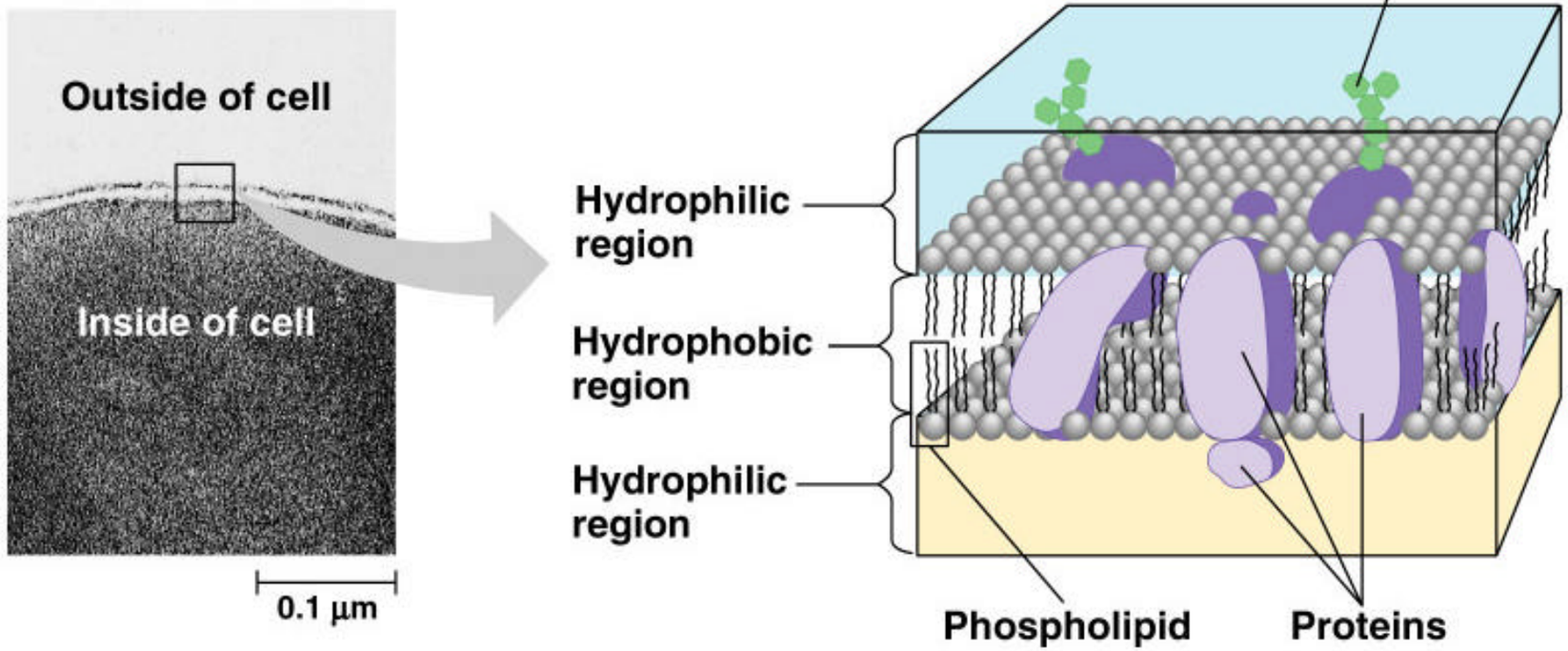


(b)

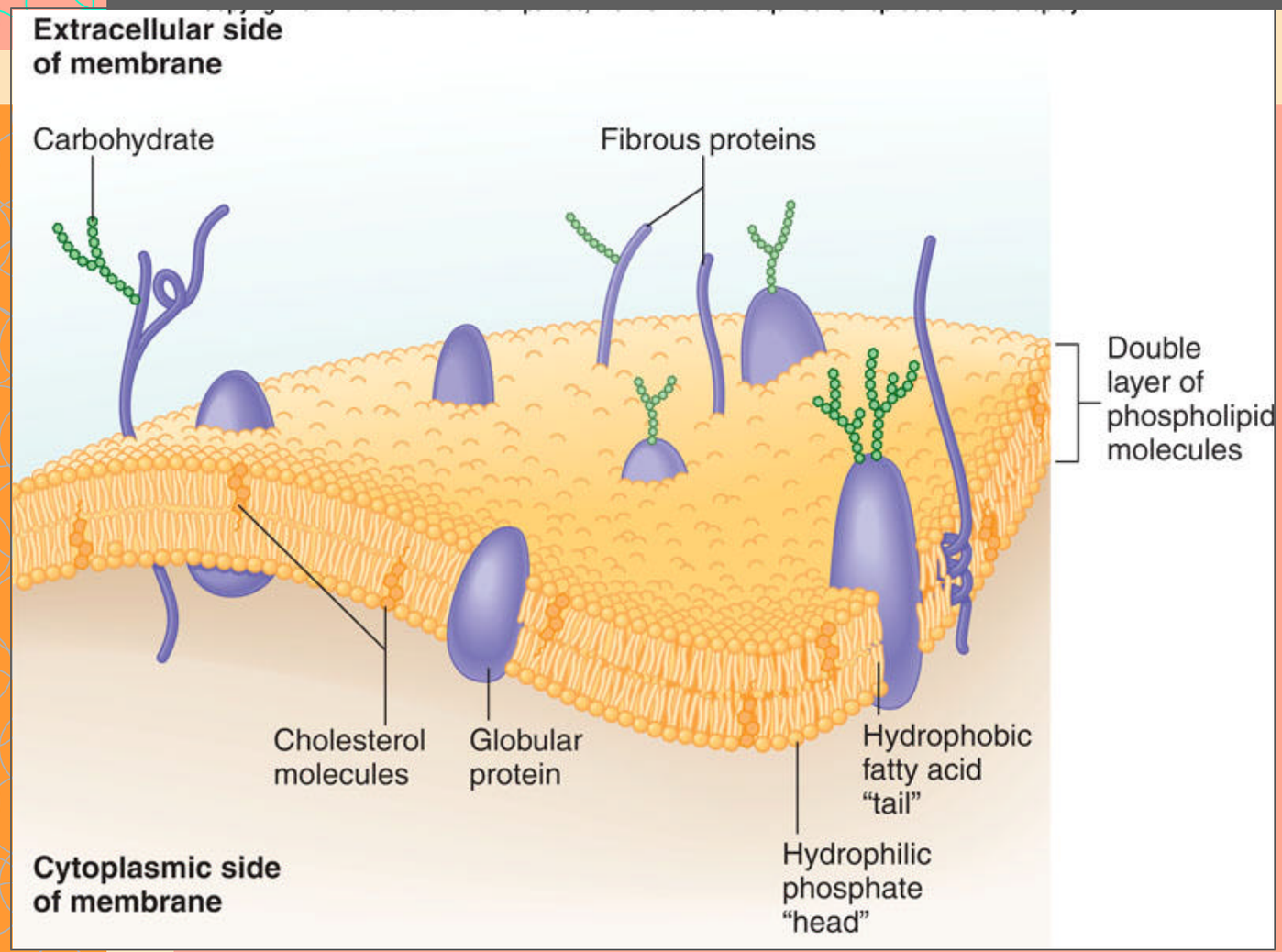
MEMBRANA PLASMATICA



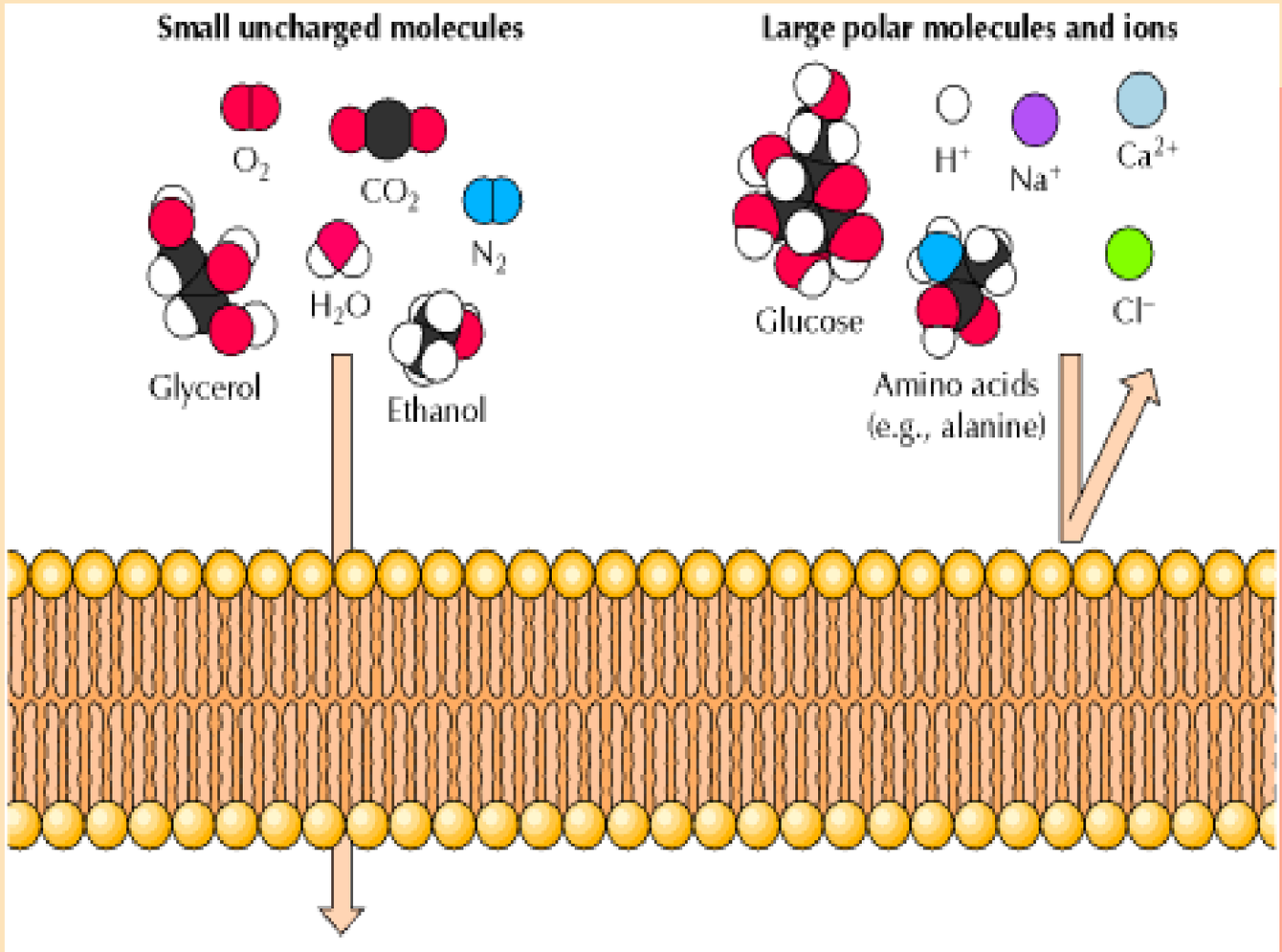
(a) TEM of a red blood cell

(b) Structure of the plasma

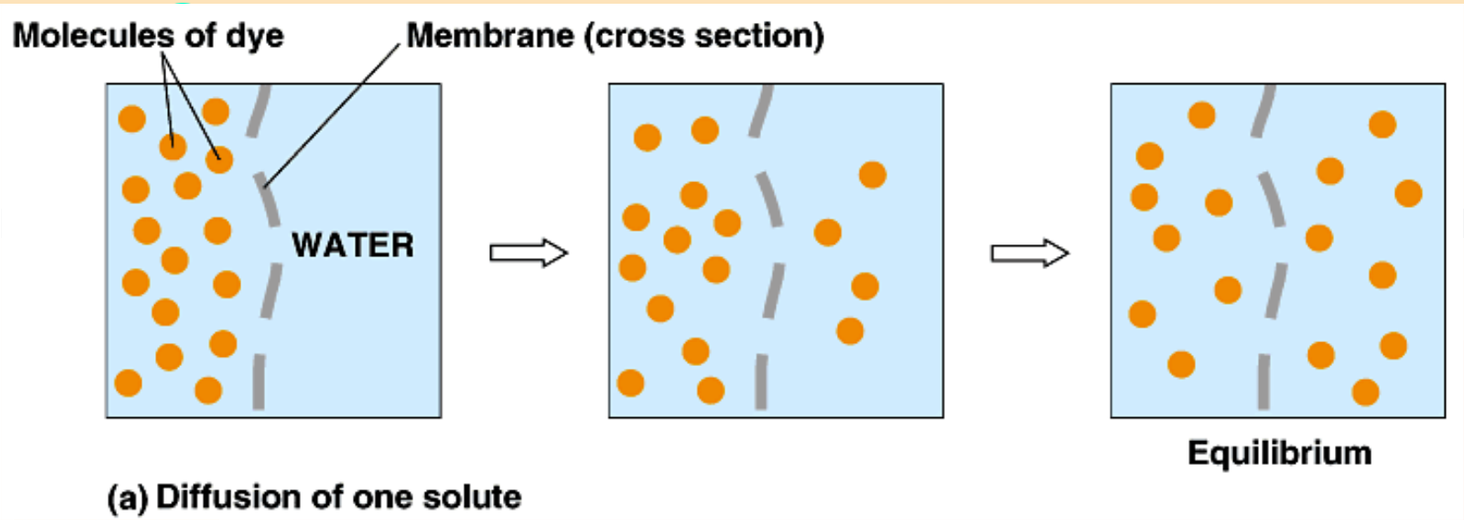
MEMBRANA PLASMATICA



PERMEABILIDAD SELECTIVA DE LA MEMBRANA CELULAR

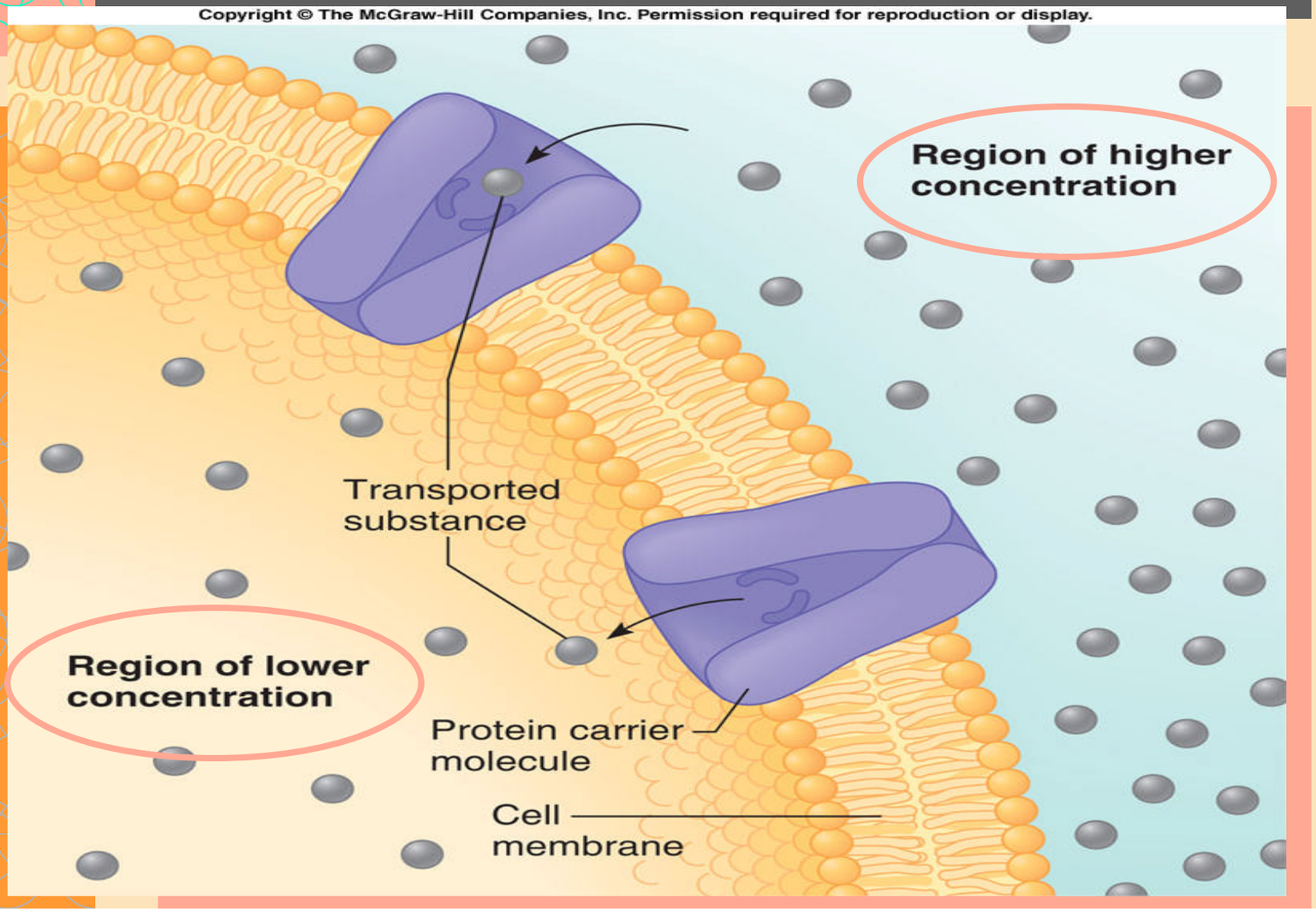


MECANISMOS DE TRANSPORTE



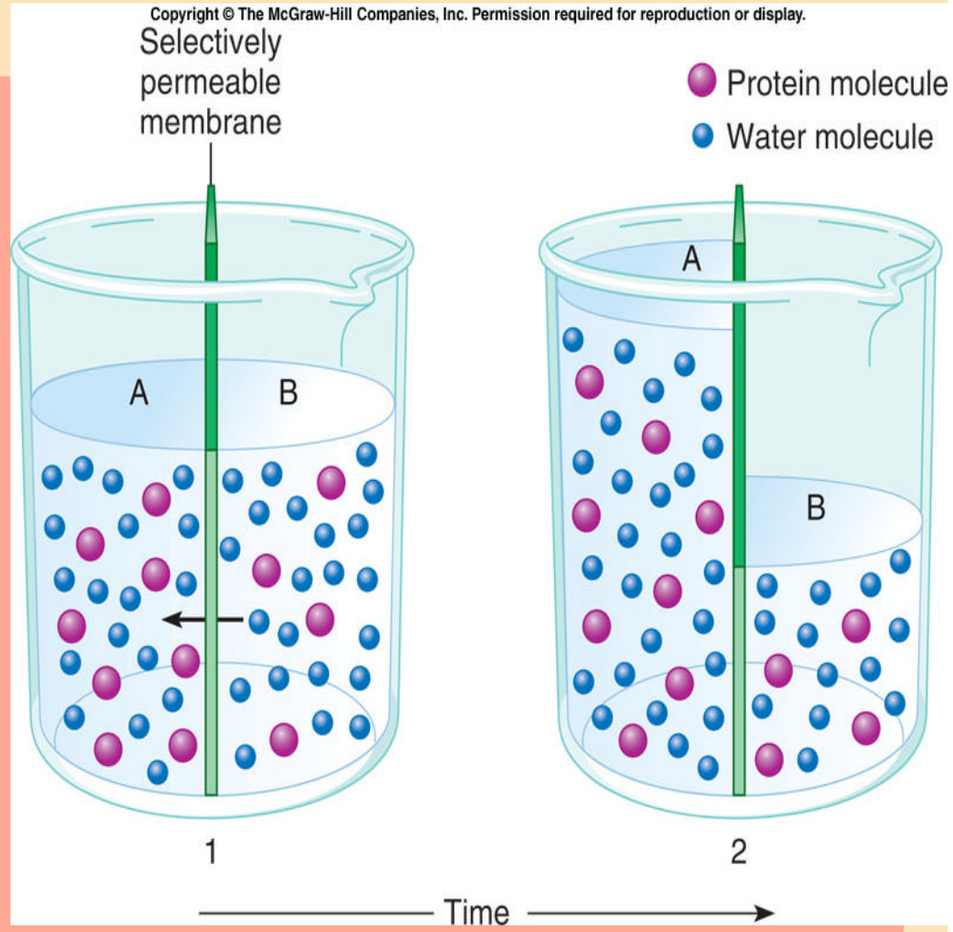
(a) Diffusion of one solute

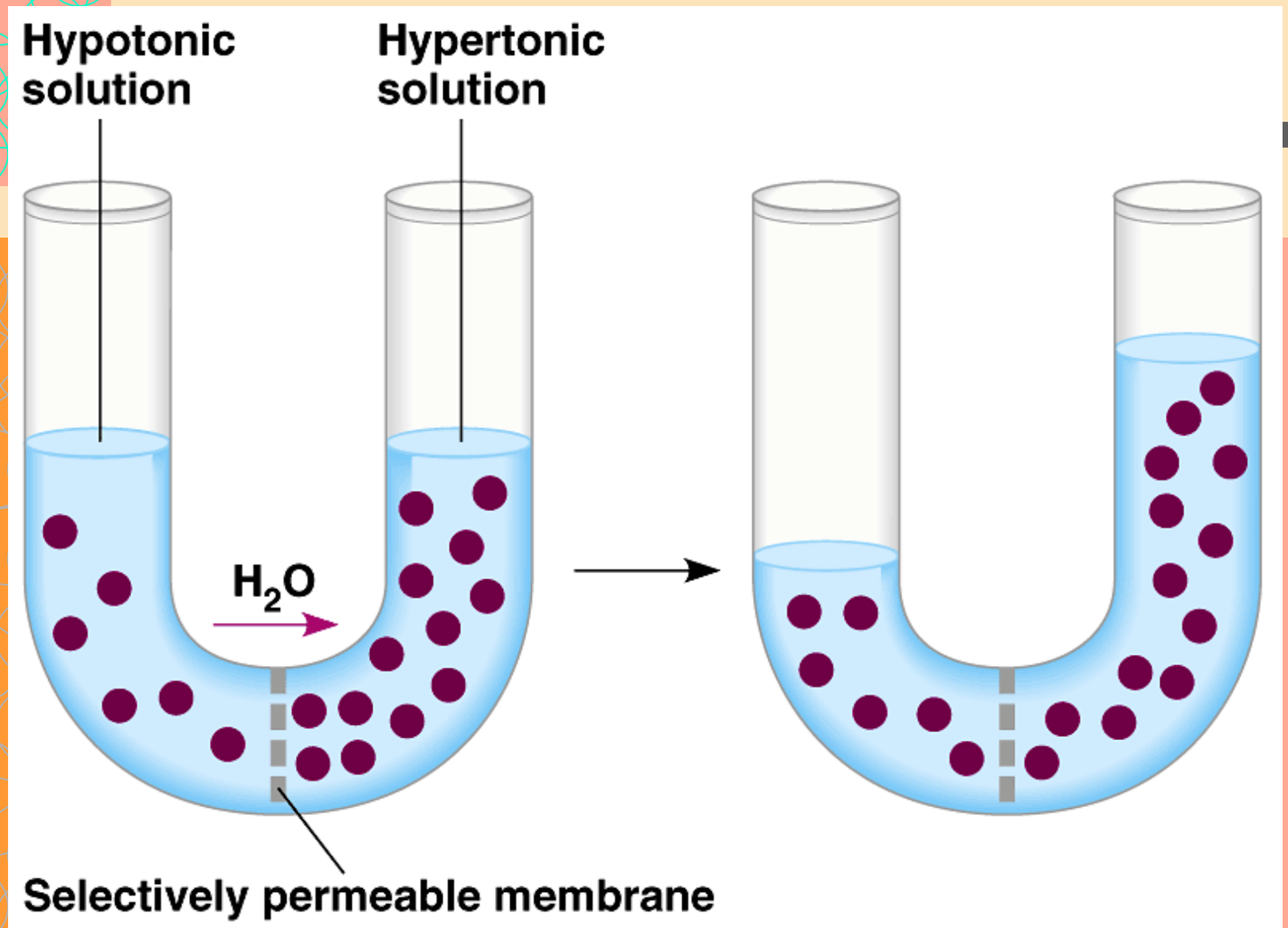
DIFUSION FACILITADA



OSMOSIS

- DIFUSION DE AGUA ATRAVES DE UNA MEMBRANA SELECTIVAMENTE PERMEABLE




Hypotonic solution
Hypertonic solution
H_2O
Selectively permeable membrane

TONICIDAD

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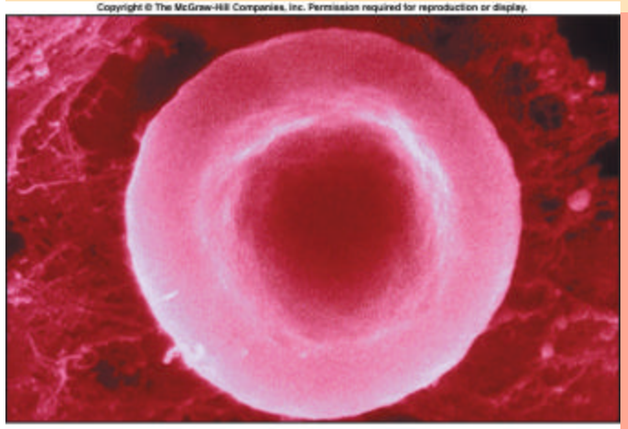

(a)

SOLUCION ISOTONICA

SOLUCION HIPERTONICA

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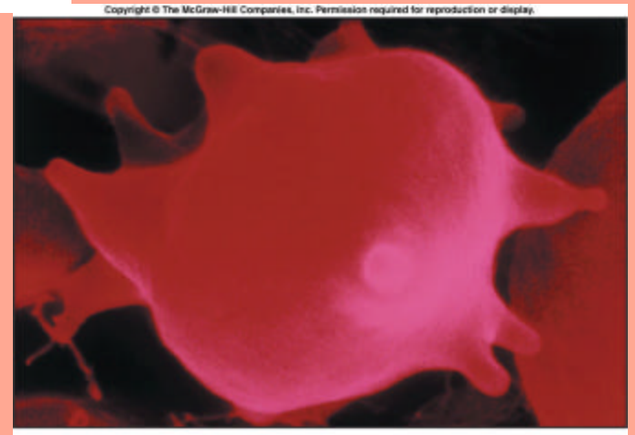

(b)

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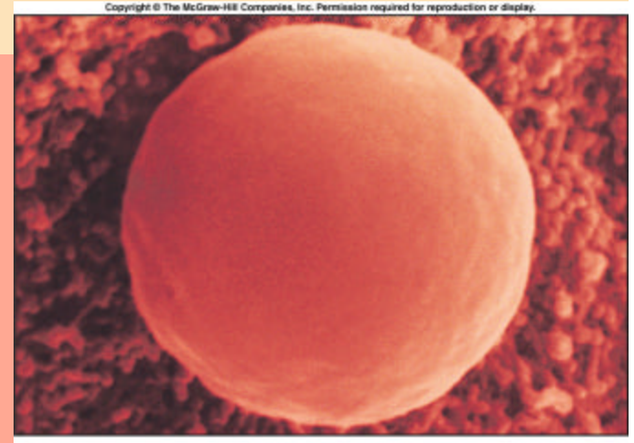
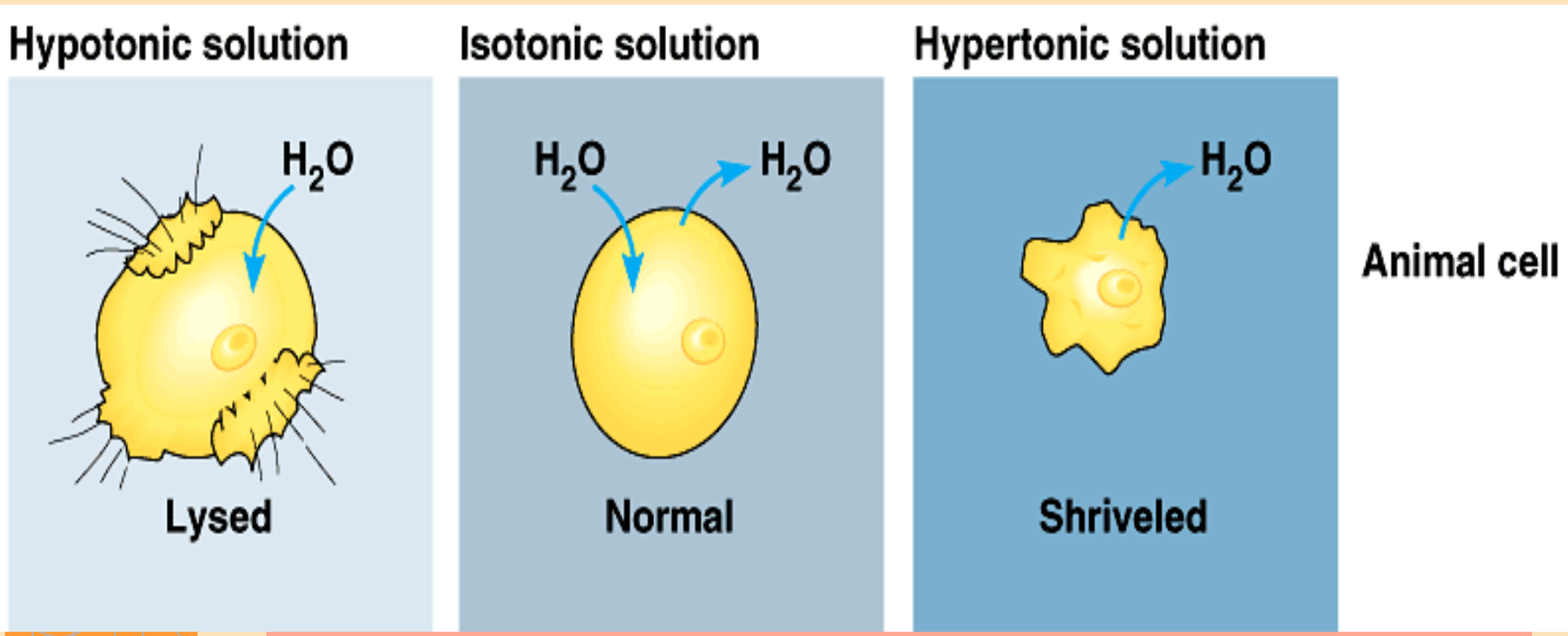


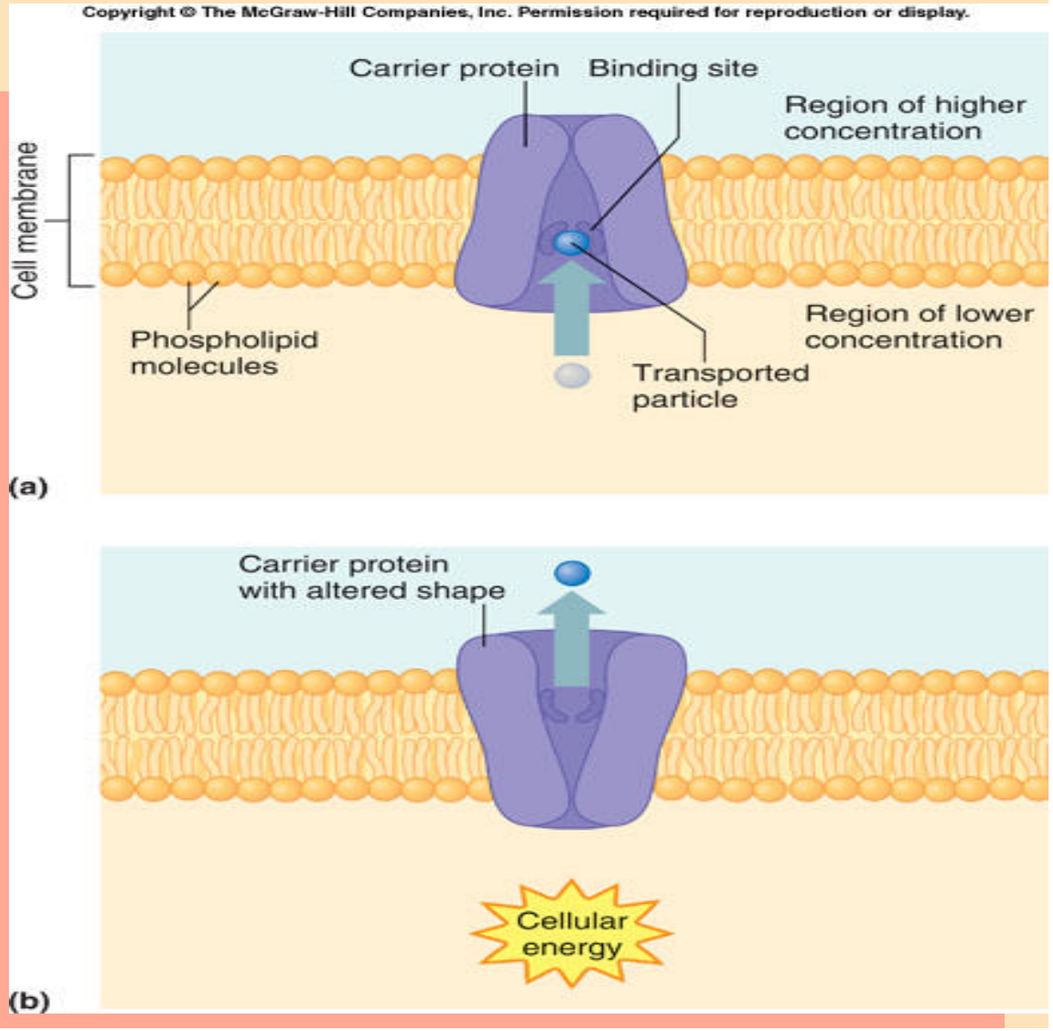
(c)

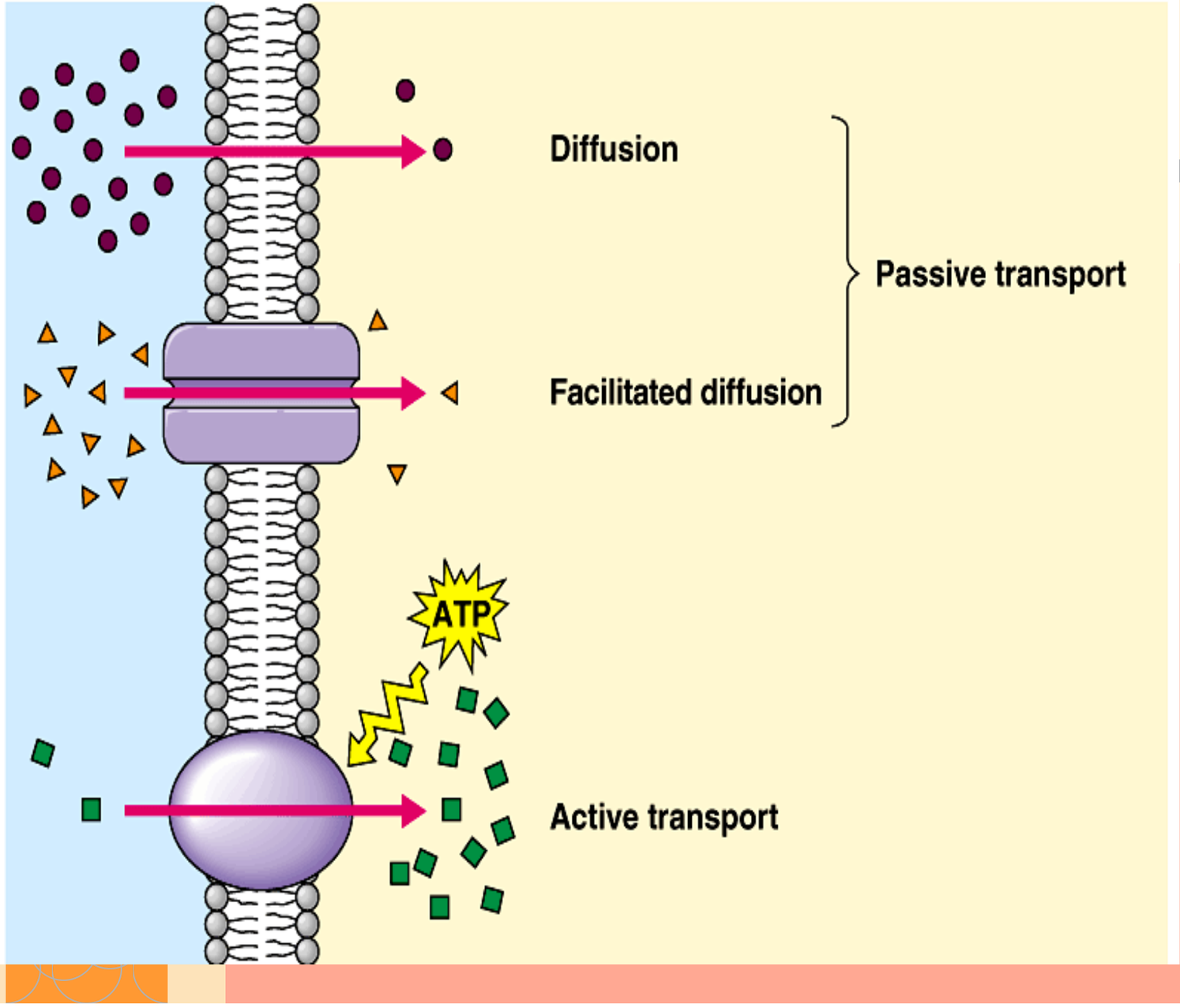
SOLUCION HIPOTONICA


Hypotonic solution
Isotonic solution
Hypertonic solution
H_2O
H_2O
H_2O
H_2O
Lysed
Normal
Shriveled
Animal cell

MECANISMOS DE TRANSPORTE ACTIVOS

- EN CONTRA DEL GRADIENTE
- NECESITA ENERGIA



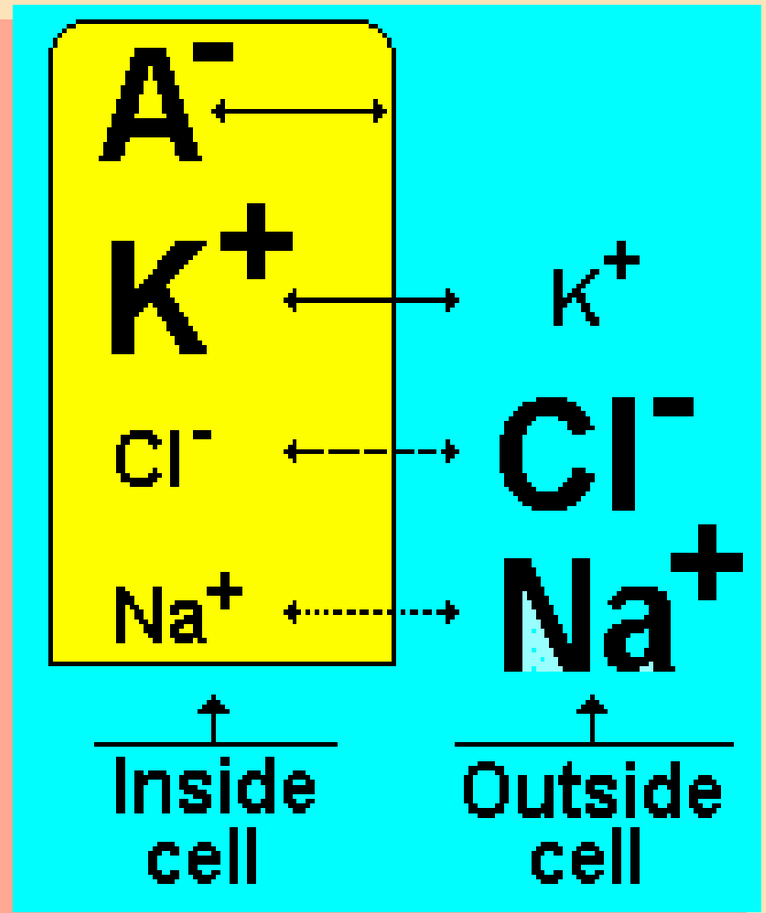

Diffusion
Passive transport
Facilitated diffusion
ATP
Active transport

ELECTROLITOS

- MOLECULAS QUE LIBERAN IONES EN EL AGUA.
- PARA MANTENER HOMEOSTASIS EL CUERPO NECESITA
  - REEMPLAZAR EL AGUA Y LOS ELECTROLITOS PERDIDOS
  - EXCRETAR LOS EXCESOS
- **Los mas importantes son: Na+, K+, Ca++, Mg++, Cl-, sulfato, fosfato, bicarbonato e H+.**

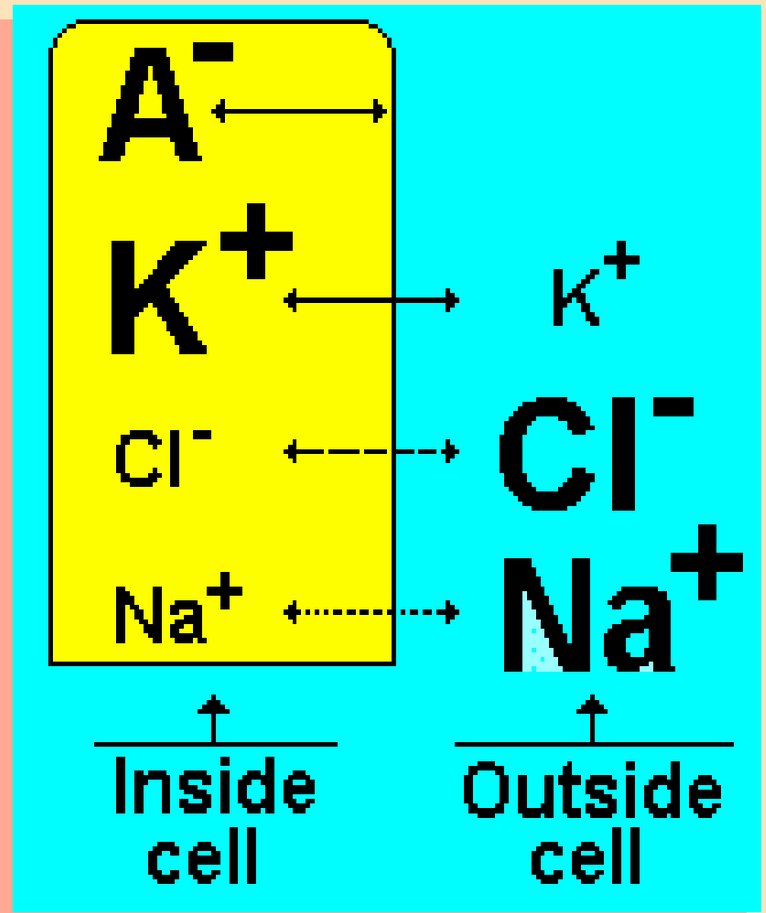
FLUIDOS EXTRACELULARES

- **Altas concentraciones de:**
  - **Na+**
  - **Cl-**
  - **Bicarbonato**
- **Mayor concentración de Ca++ en relación al K, Mg, fosfato e iones de sulfato del fluido intracelular**
- **Plasma sanguíneo - mayor cantidad de proteínas que el intracelular**

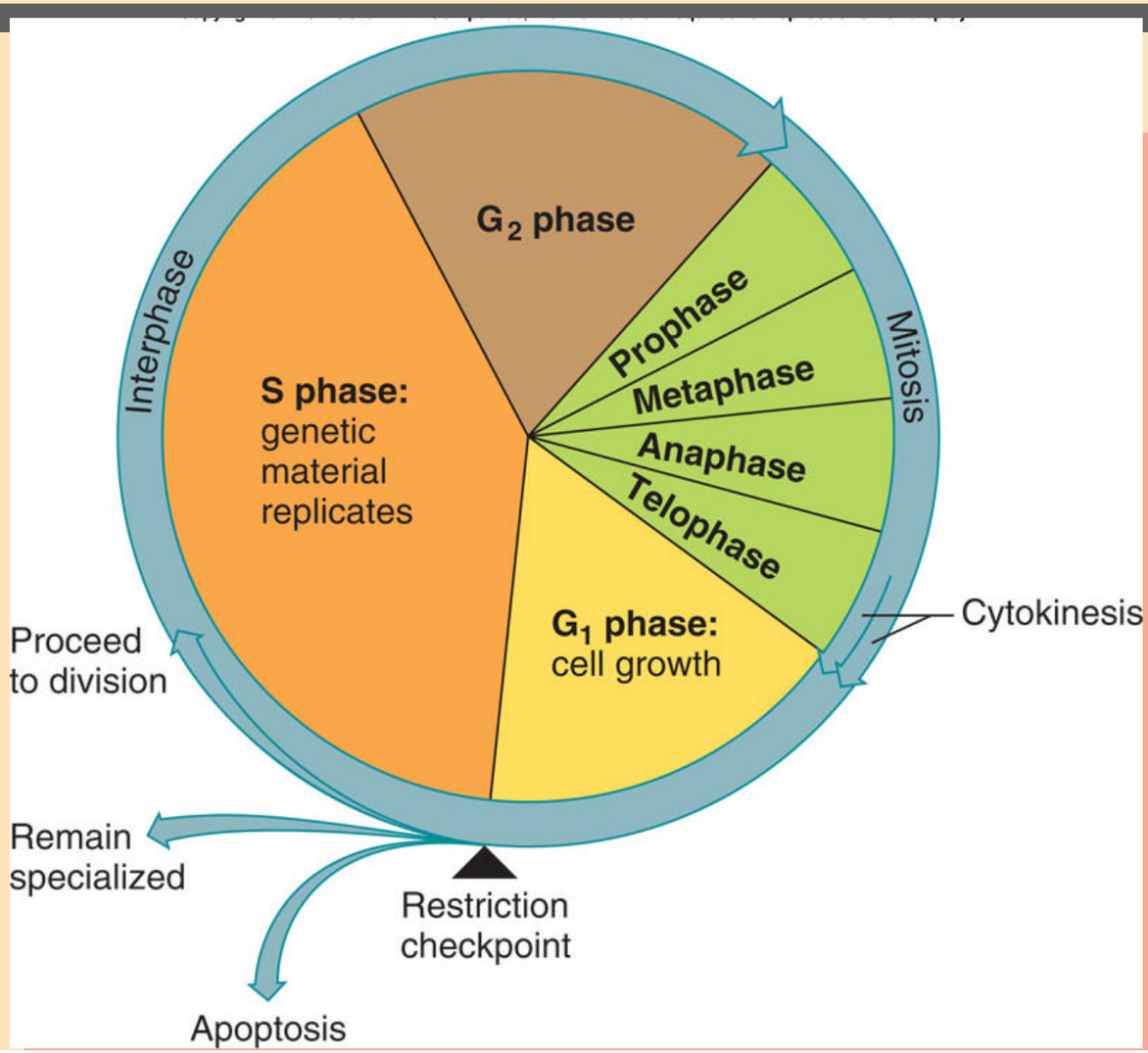


FLUIDOS INTRACELULARES

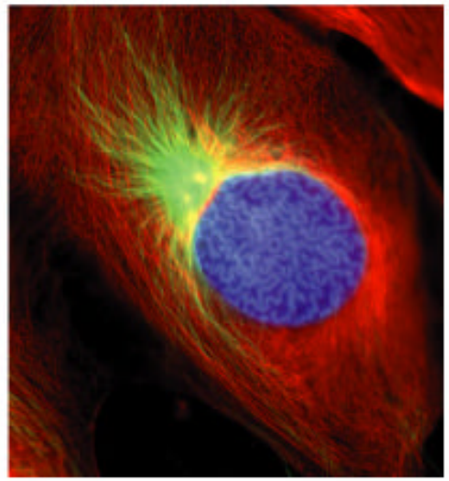
- **Altas concentraciones de;**
  - **Mg, K, fosfato**
- **Menos concentración de:**
  - **Na, Cl, bicarbonato**

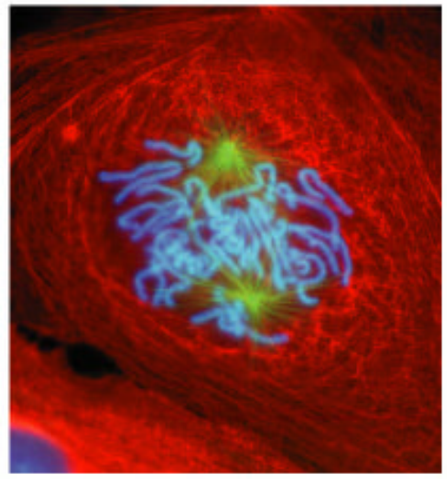


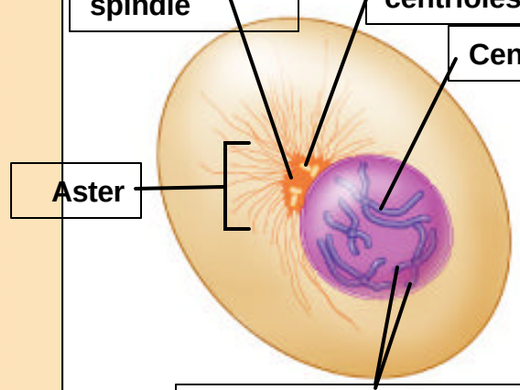
CICLO CELULAR

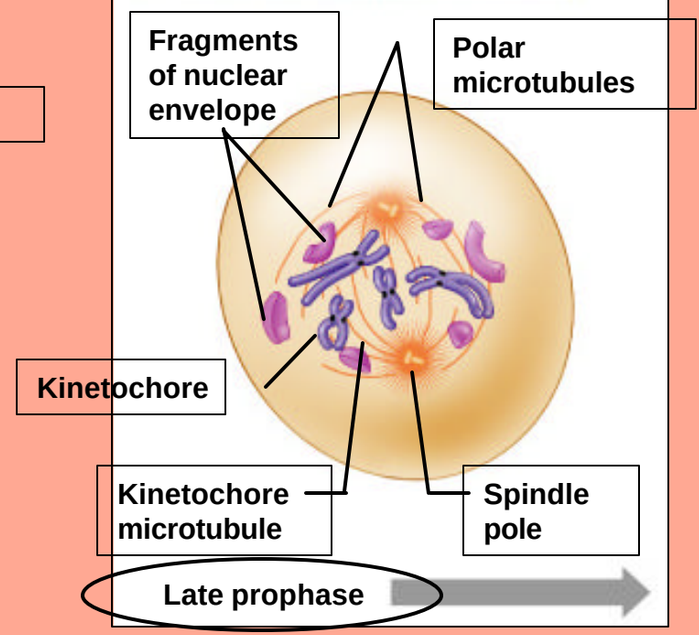


PROFASE

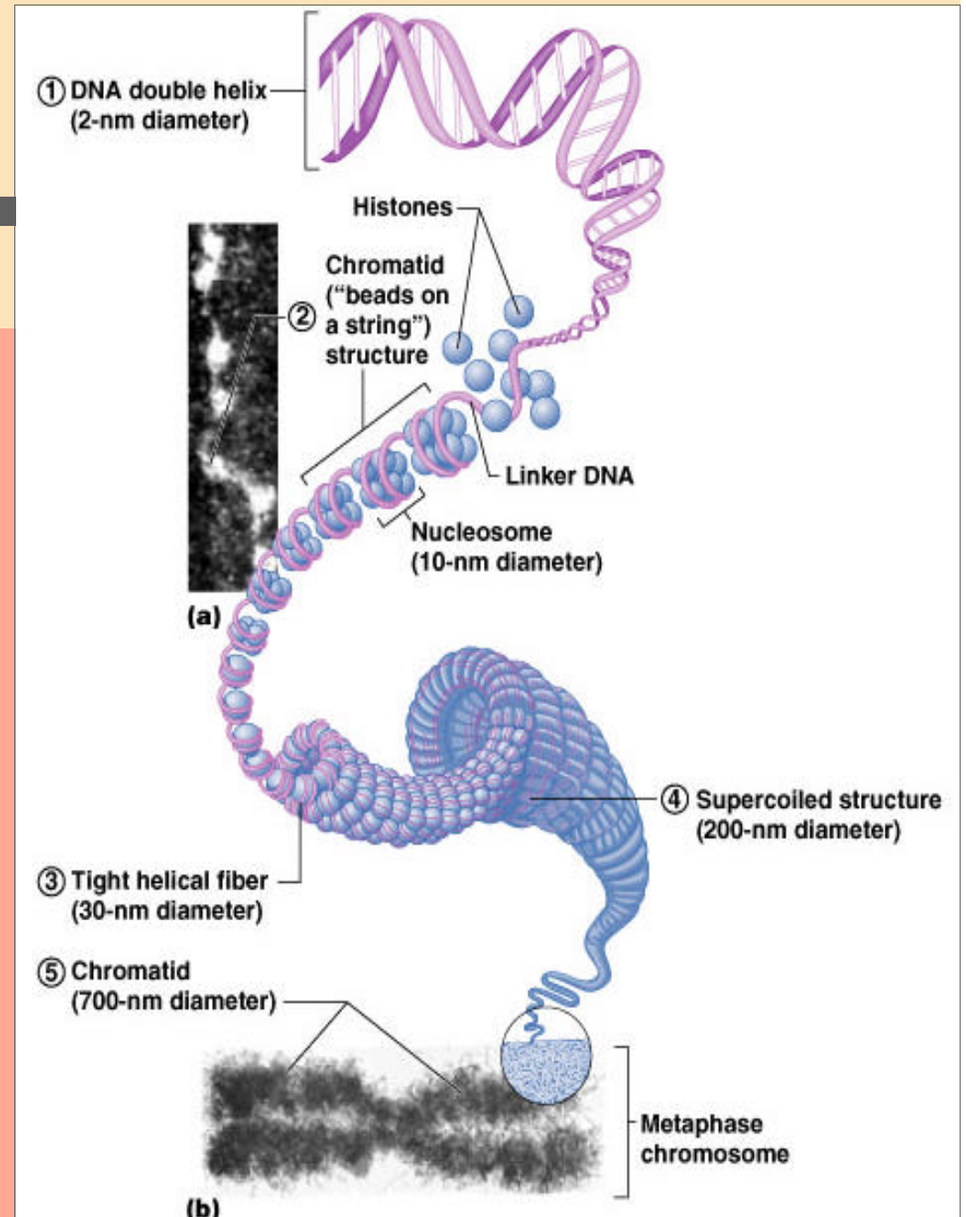




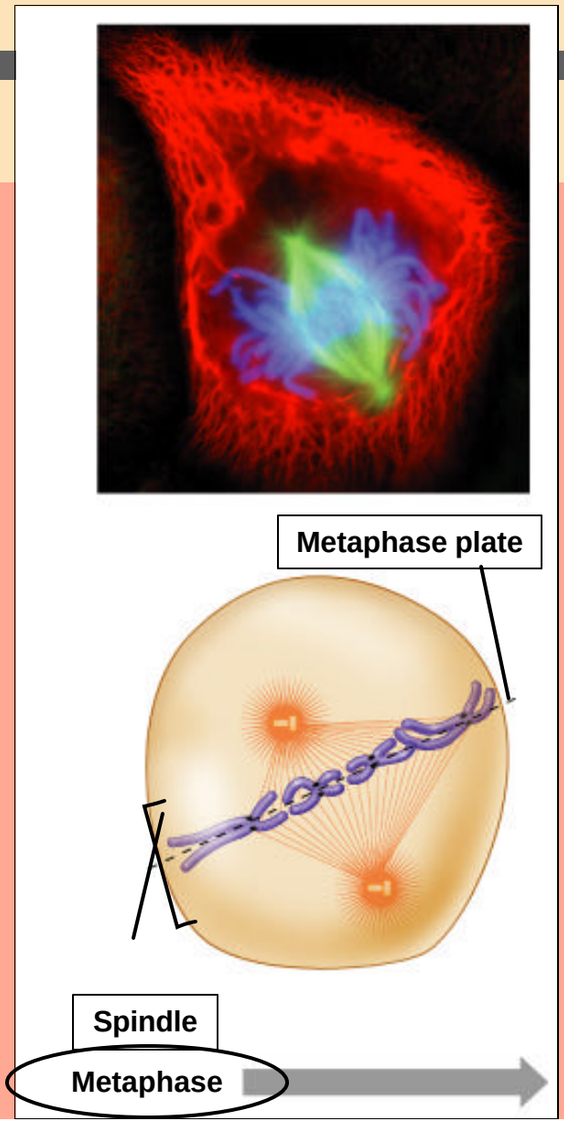

Early mitotic spindle
Pair of centrioles
Centromere
Aster
Chromosome, consisting of two sister chromatids
Early prophase


Fragments of nuclear envelope
Polar microtubules
Kinetochore
Kinetochore microtubule
Spindle pole
Late prophase

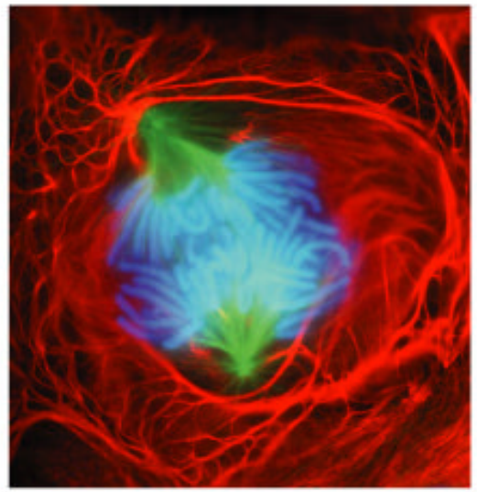
FORMACION DE CROMATINA Y CROMOSOMAS

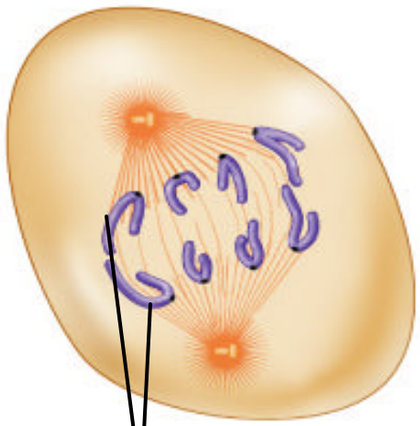


METAFASE

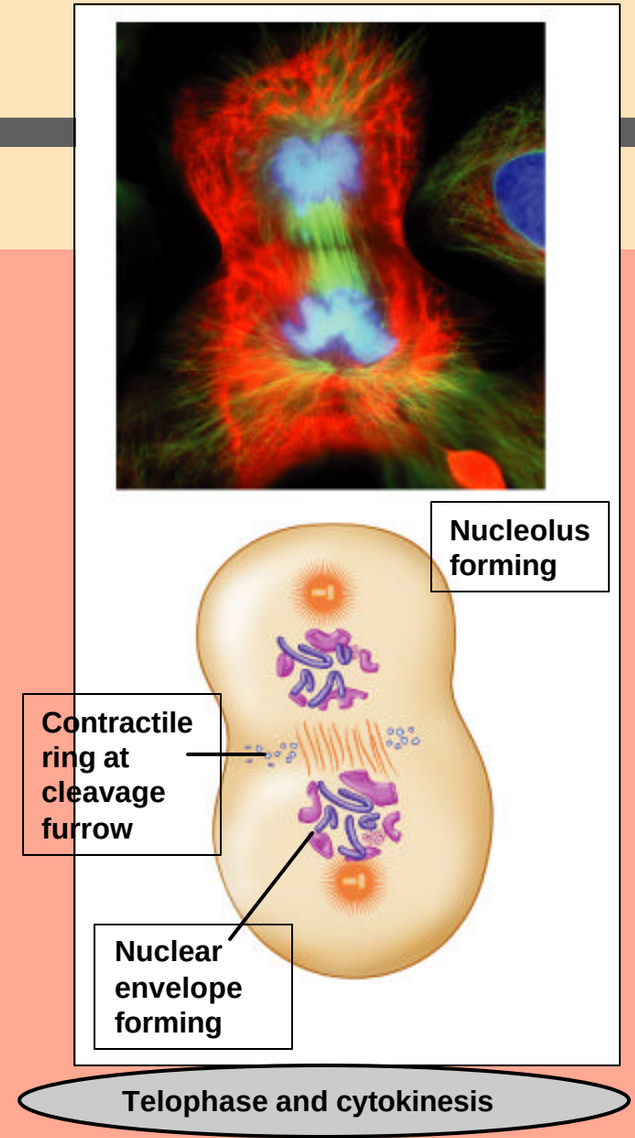


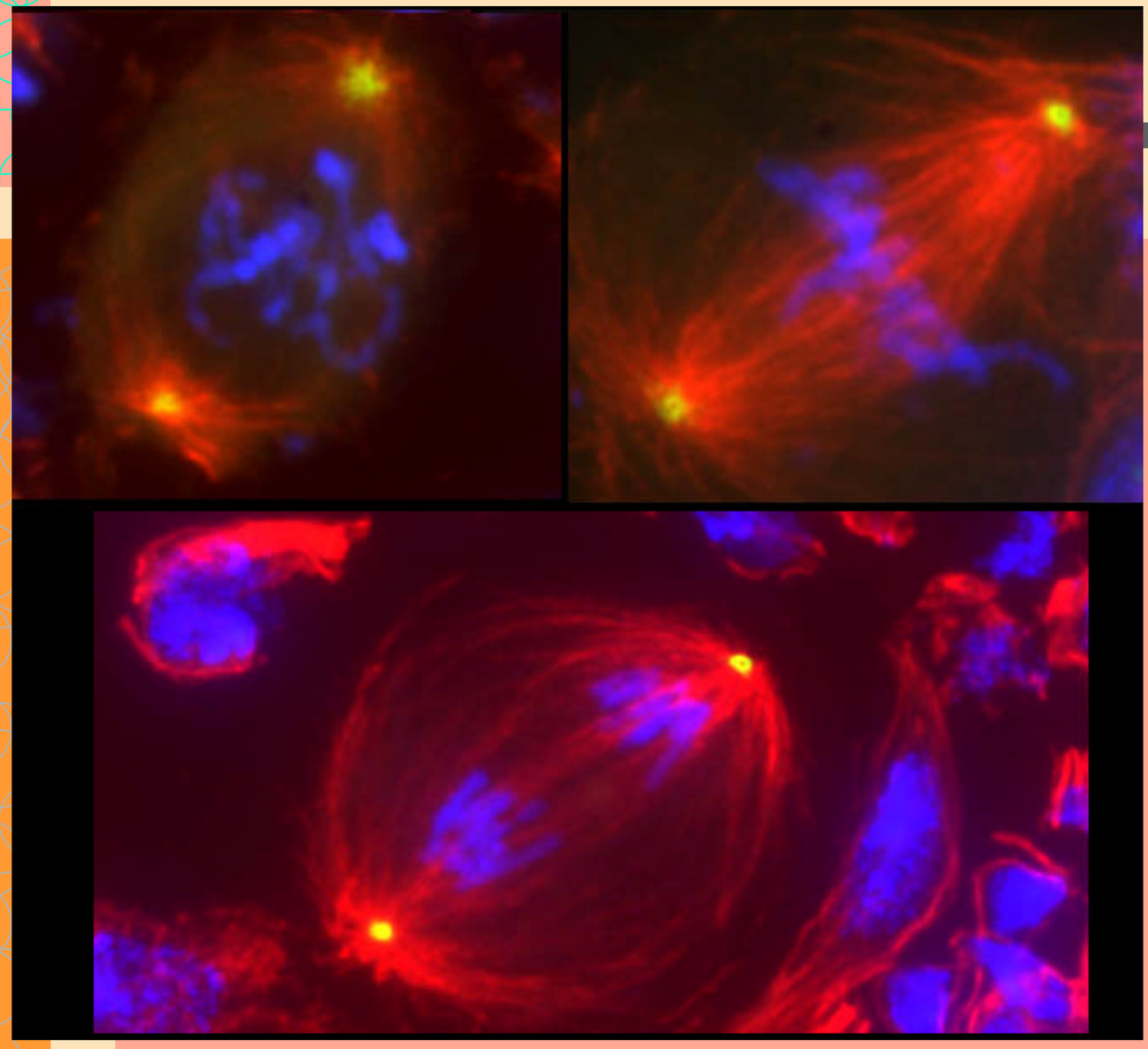
ANAFASE



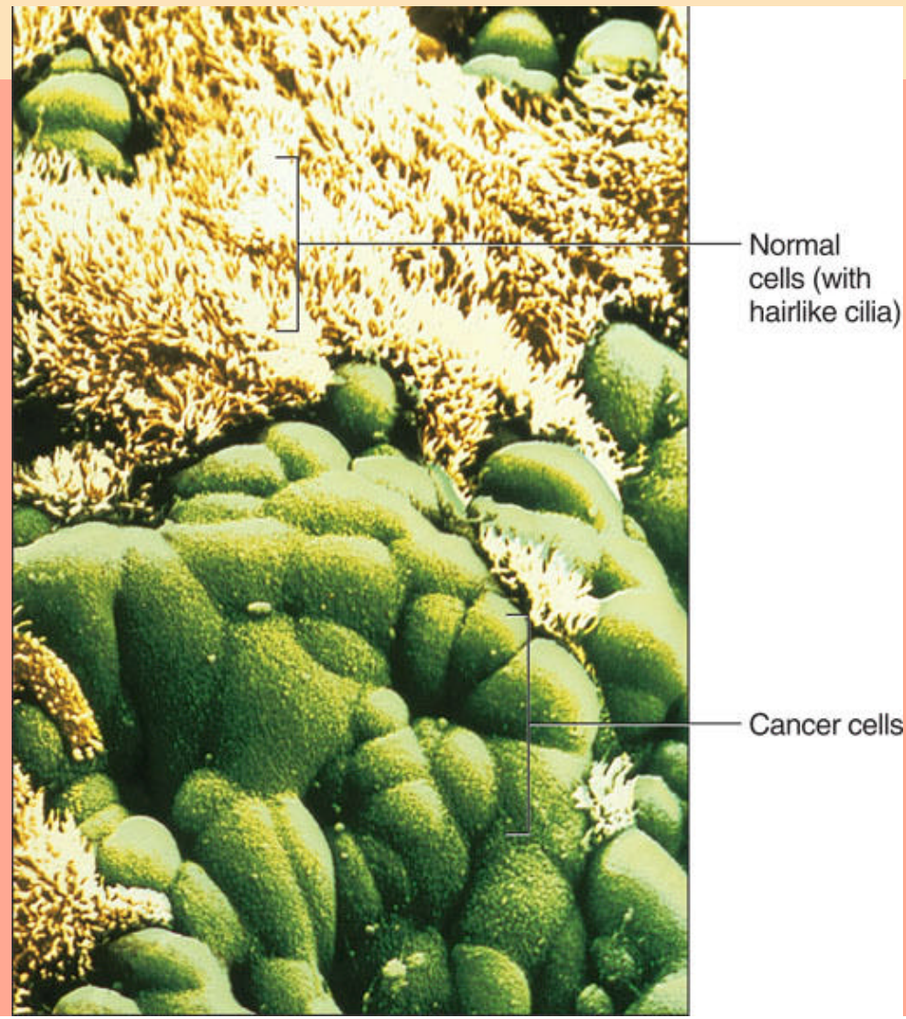


TELOFASE Y CITOCITESIS

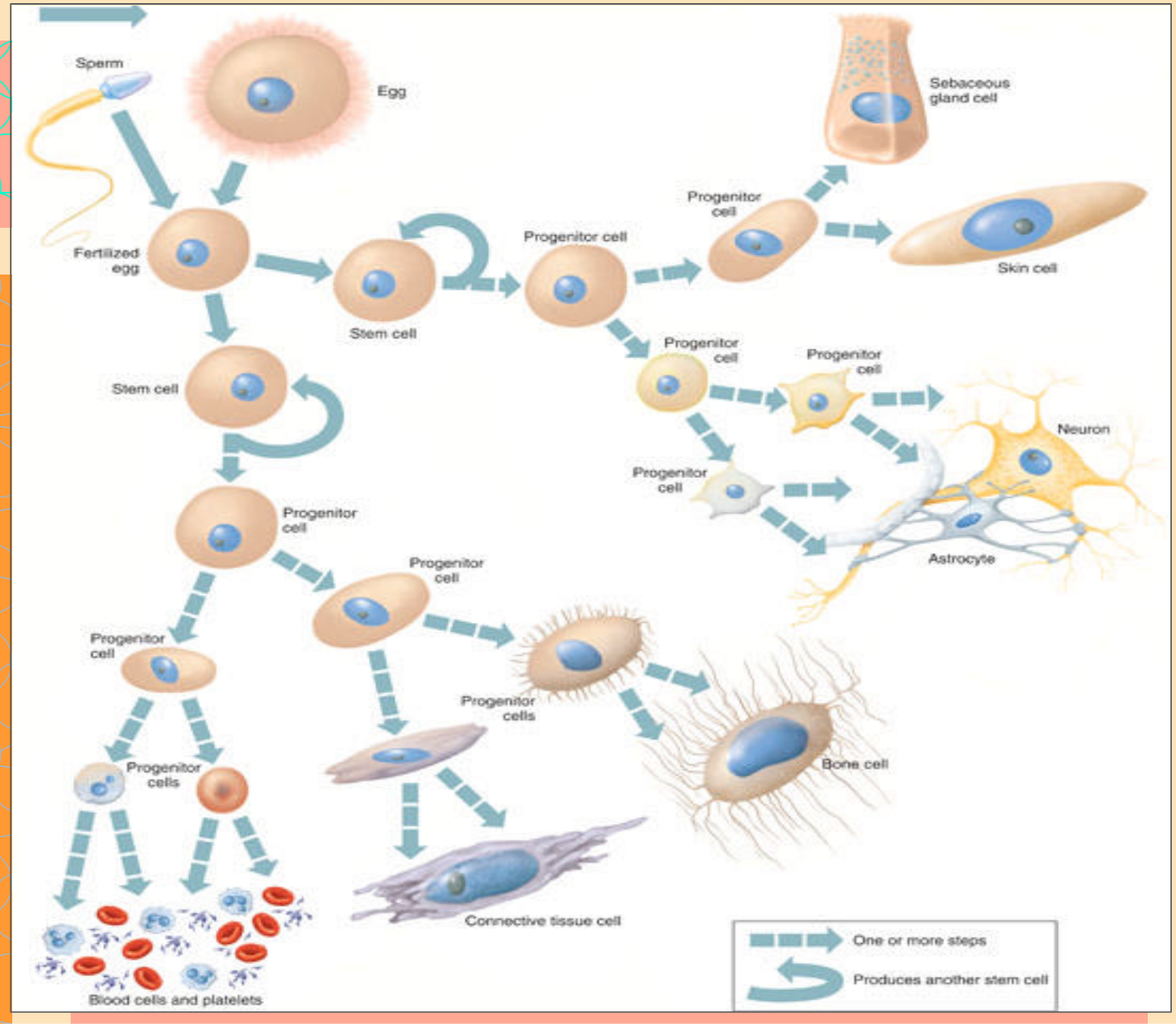




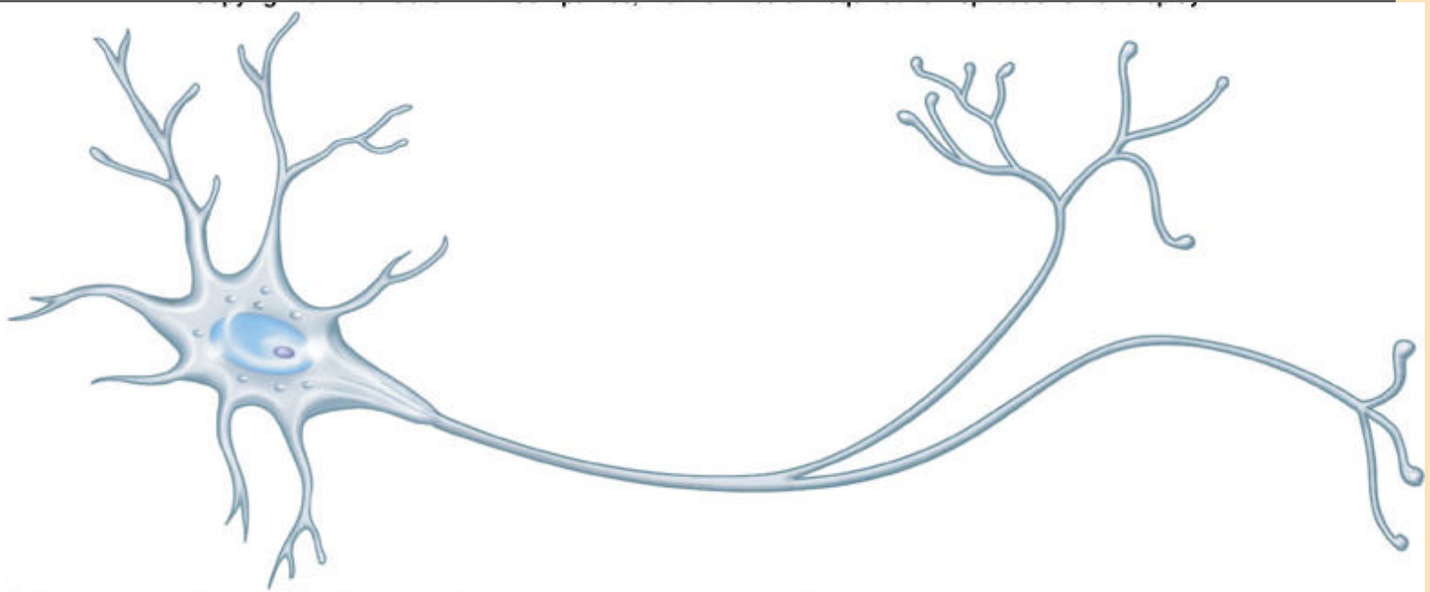
CRECIMIENTO CELULAR DESCONTROLADO



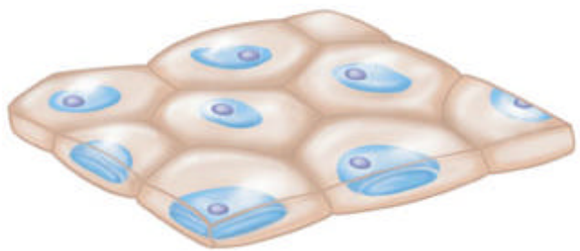
DIFERENCIACION CELULAR



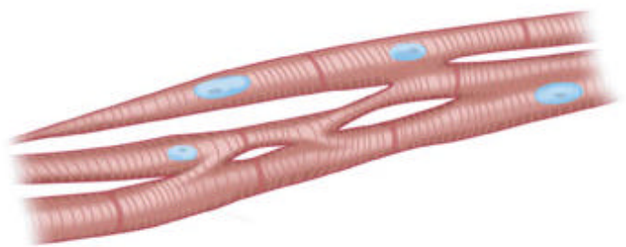
DIFENTES TIPOS DE CELULAS FUNCIONES DISTINTAS



(a) A nerve cell transmits impulses from one body part to another.



(b) Epithelial cells protect underlying cells.



(c) Muscle cells contract, pulling structures closer together.

ORGANELO	FUNCION

ORGANELO	FUNCION