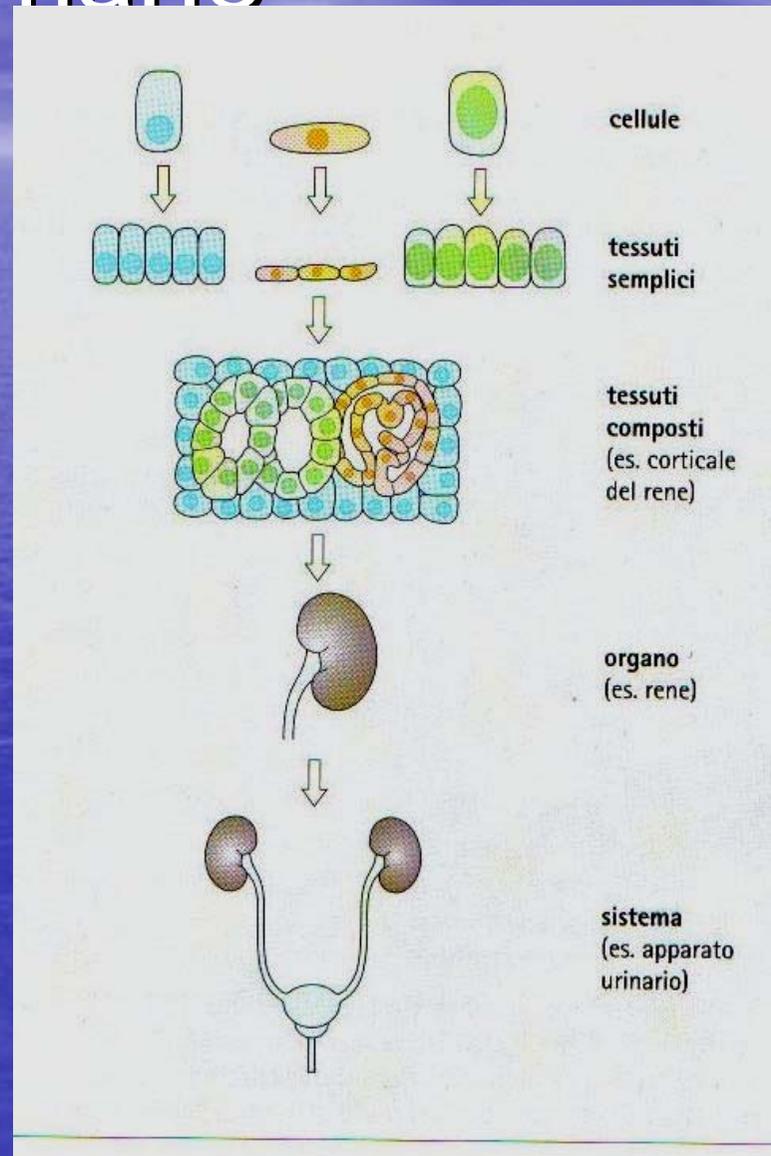


[www.fisiokinesiterapia.biz](http://www.fisiokinesiterapia.biz)

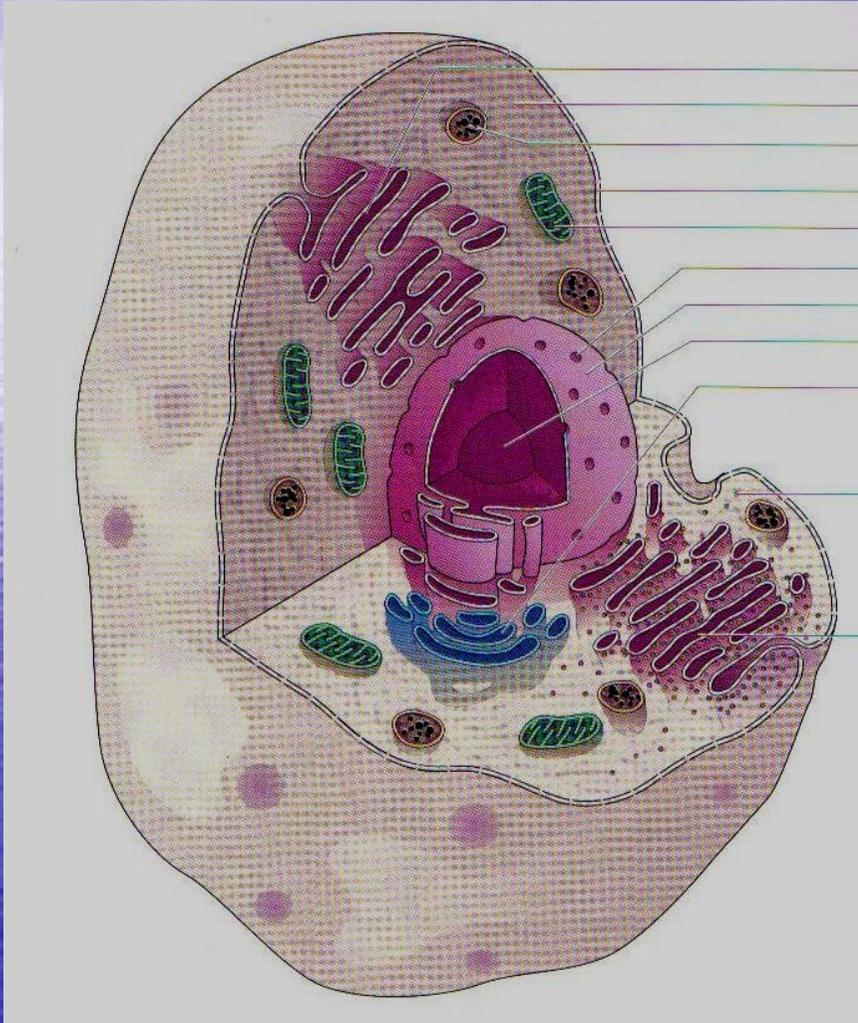
Cellula e tessuti



# Corpo umano

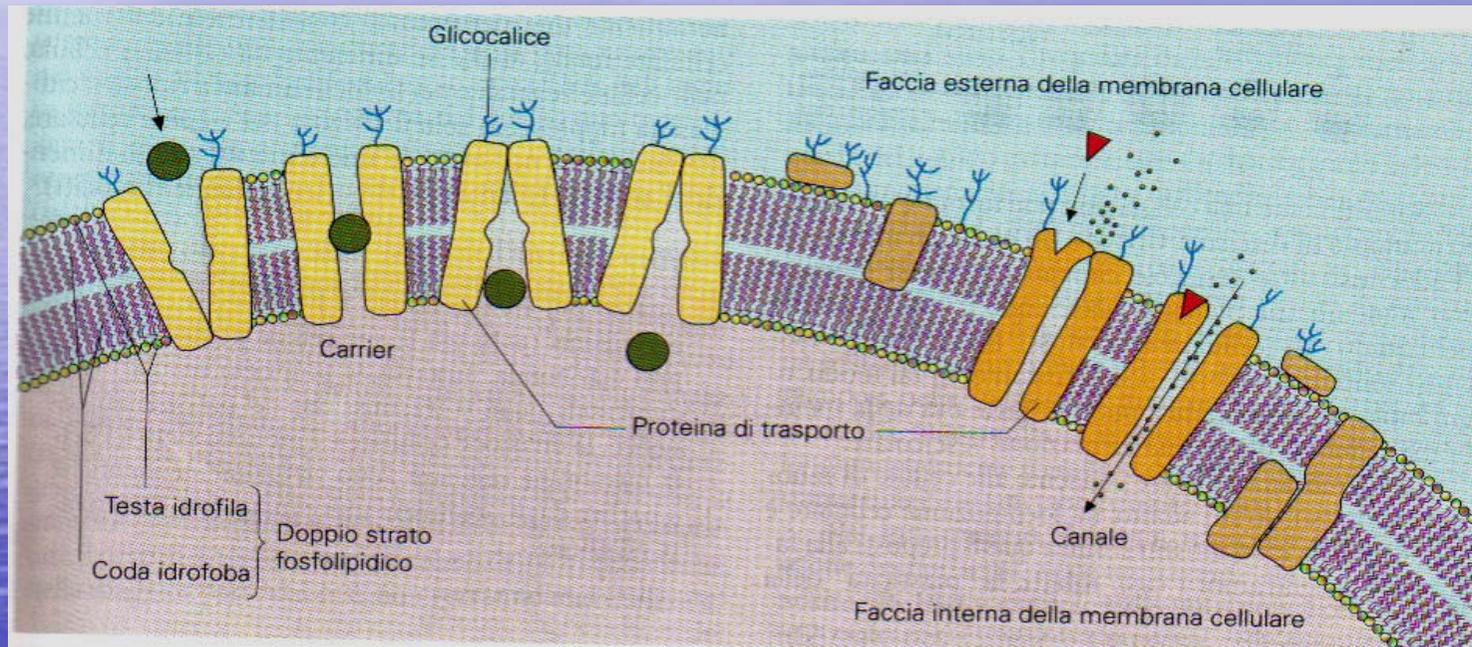


# Cellula eucariote



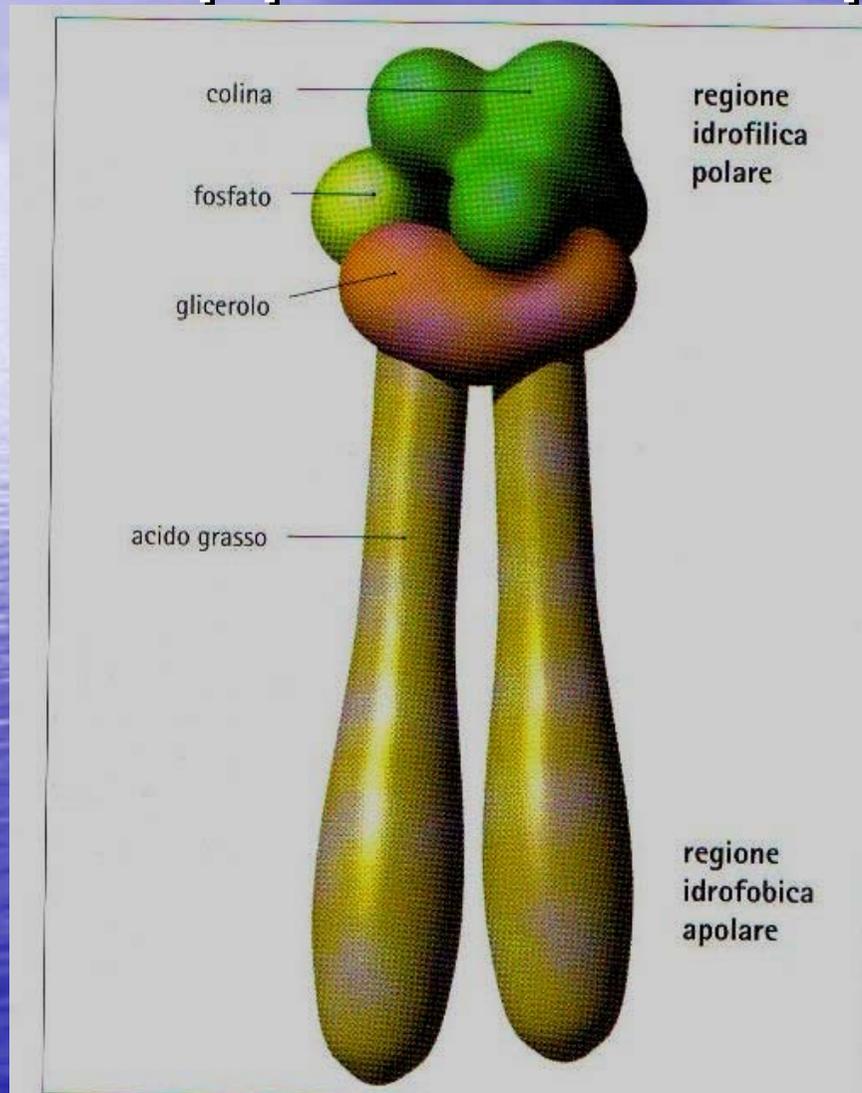
- Membrana cellulare
- Citoplasma
- Nucleo
- Mitochondri
- Reticolo endoplasmatico
- Golgi

# Membrana cellulare



- Delimitare la cellula
- Permettere la comunicazione con l'esterno

# Doppio strato lipidico



FOSFOLIPIDI

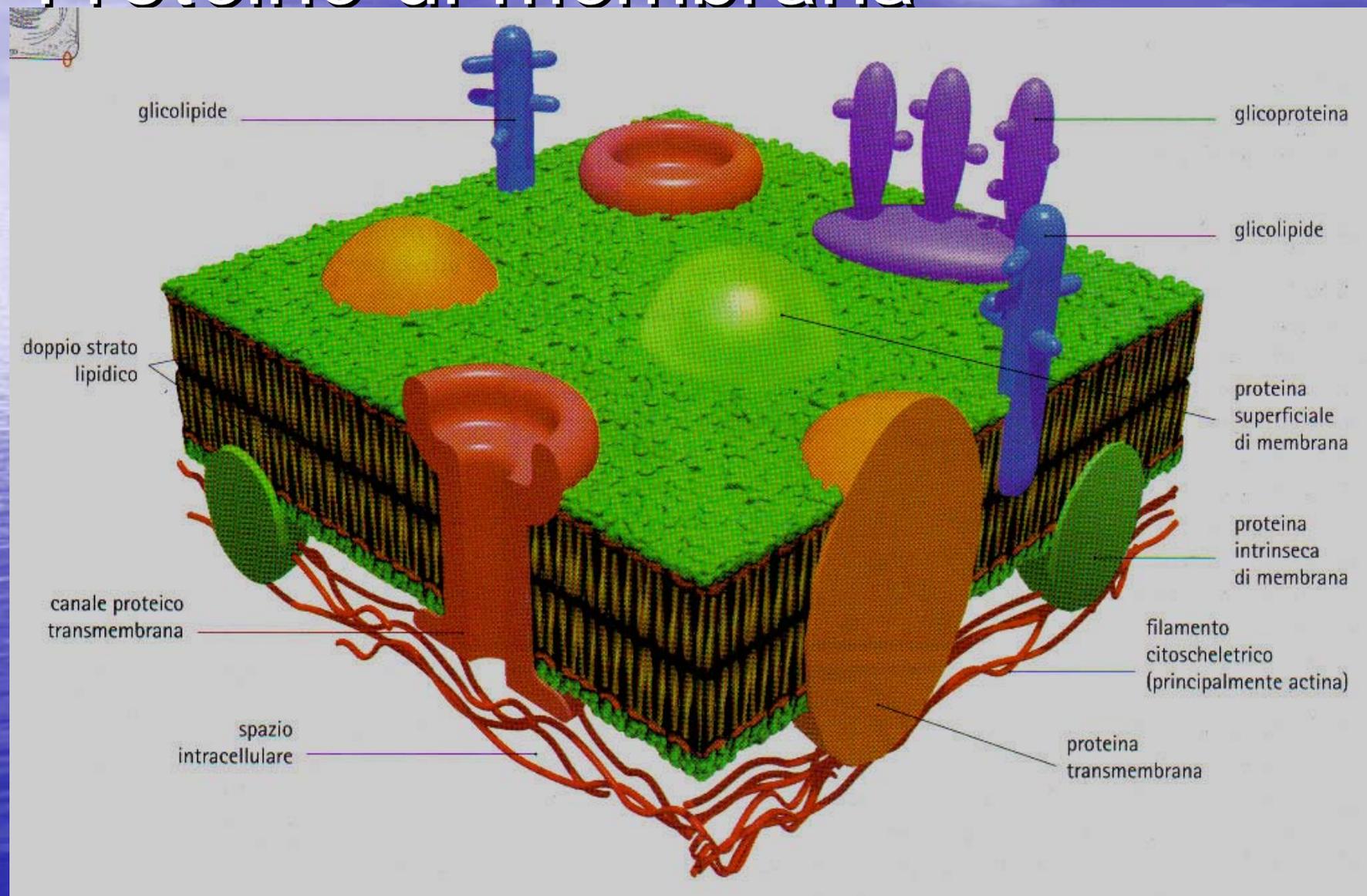
Glicerolipidi

colesterolo

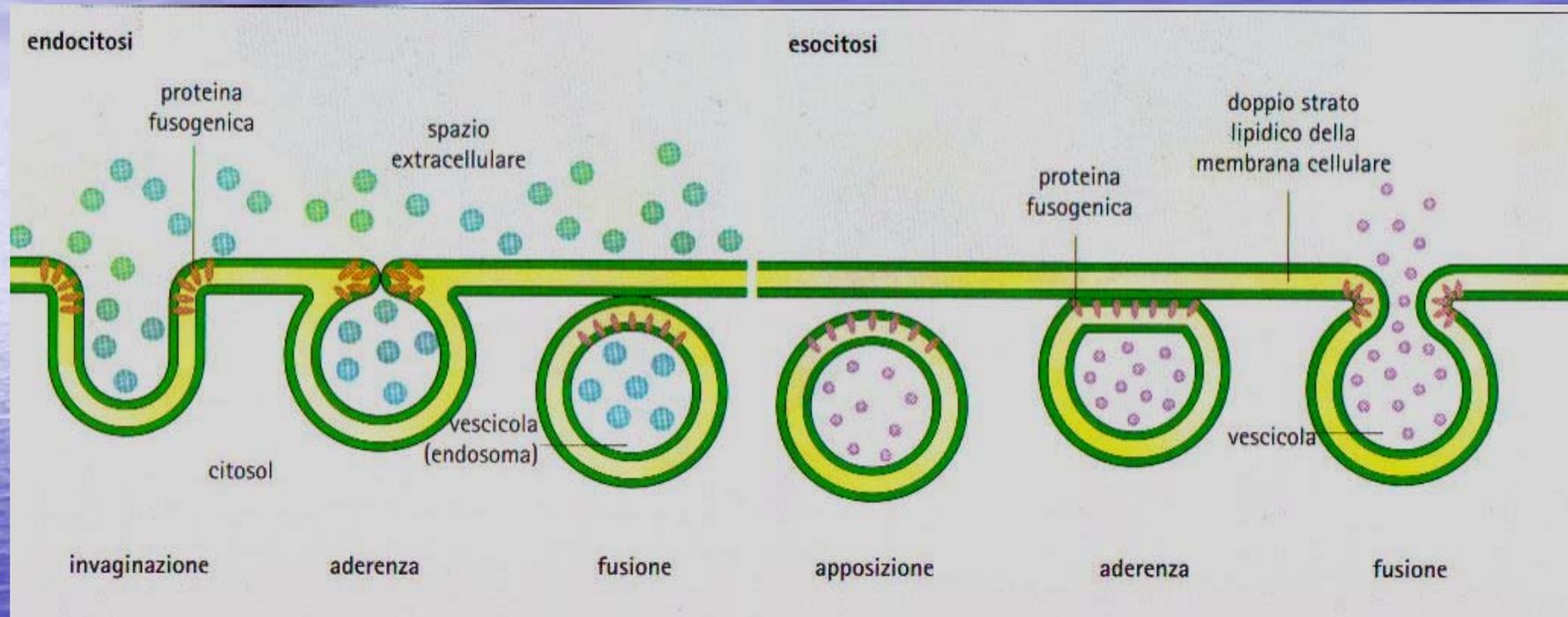
# Membrana cellulare

- Fluidità
- Permeabilità
  - Alta per molecole piccole, apolari, idrofobiche (O<sub>2</sub>, CO)
  - Media per piccole molecole non cariche (H<sub>2</sub>O)
  - Nulla per grandi molecole, cariche

# Proteine di membrana



# Endo-esocitosi

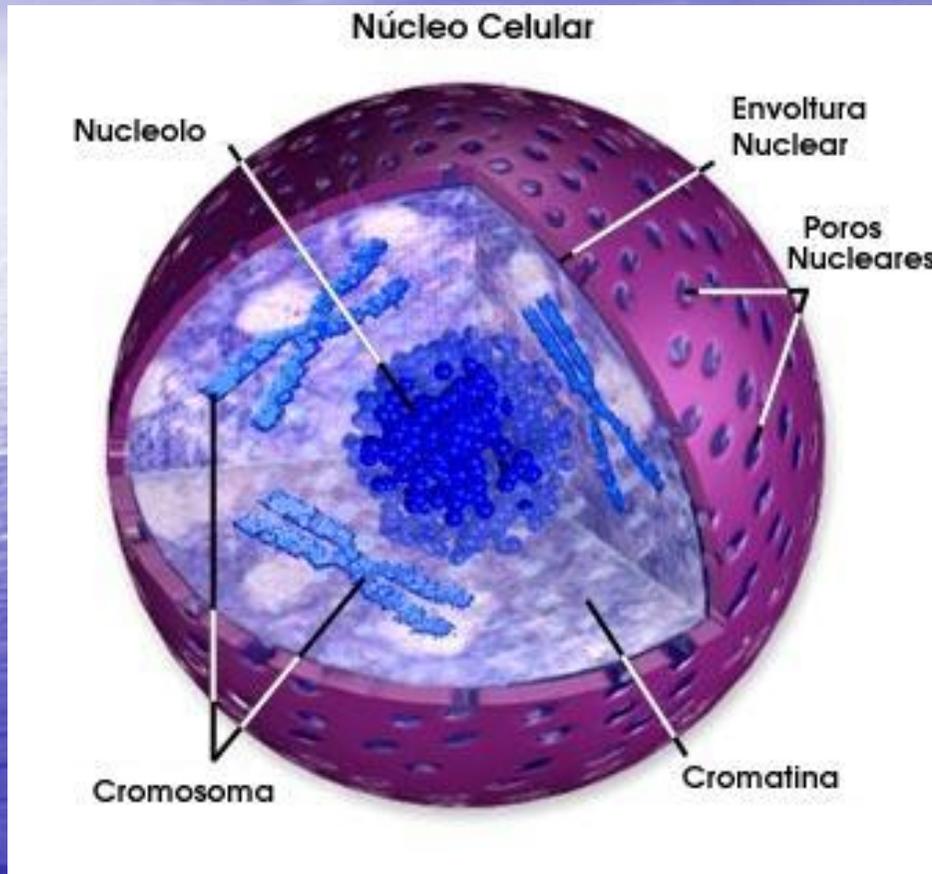


- Pinocitosi (< 50 nm)
- Fagocitosi (>250 nm)

# Citoplasma

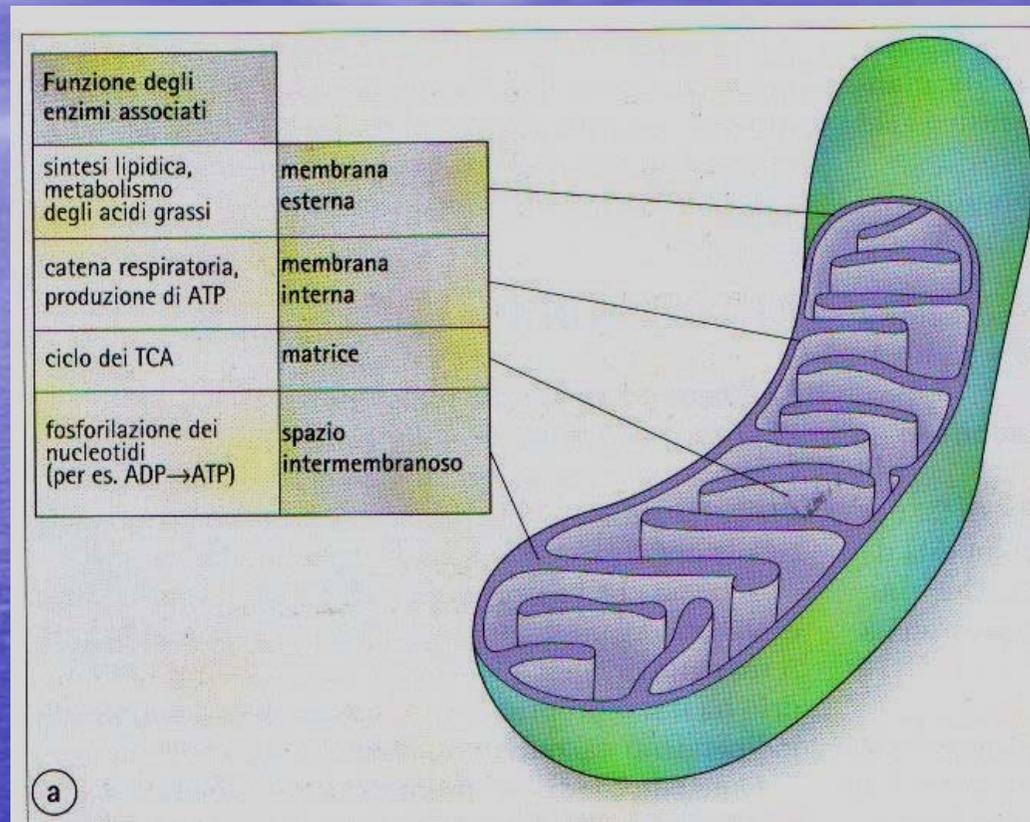
- Matrice fluida che contiene gli organelli
- Citoscheletro:
  - Microfilamenti (actina): motilità
  - Microtuboli (tubulina): trasporto intracellulare
  - Filamneti intermedi: stabilizzazione

# Nucleo



- DNA (informazione genetica)
- Nucleolo (sintesi delle proteine – RNA)
- Doppia membrana lipidica

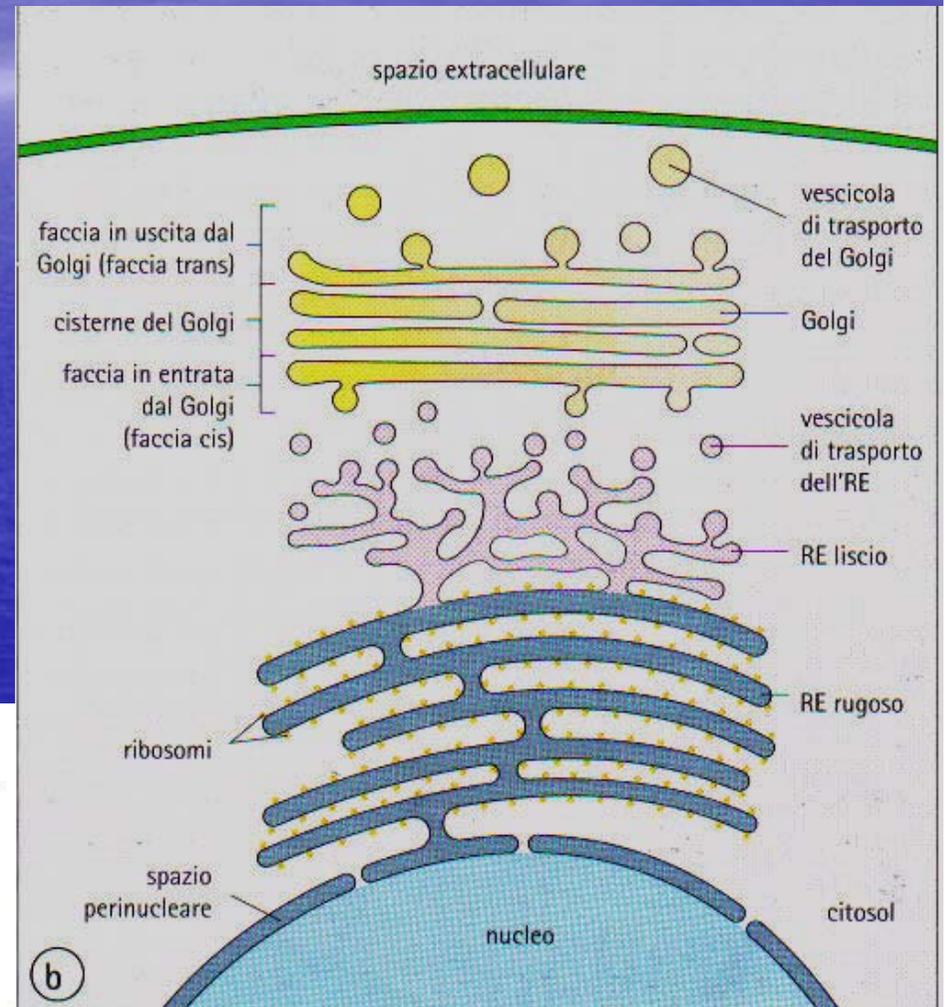
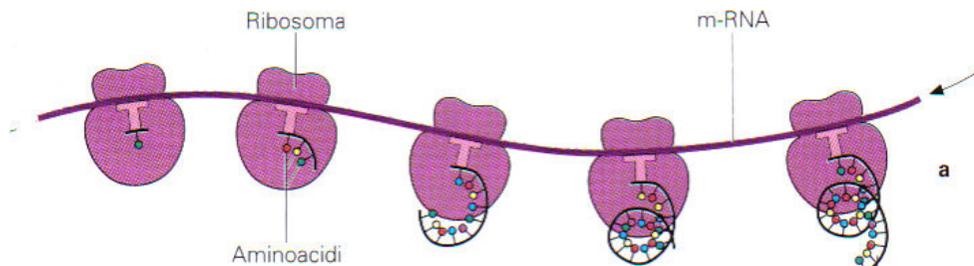
# Mitocondri



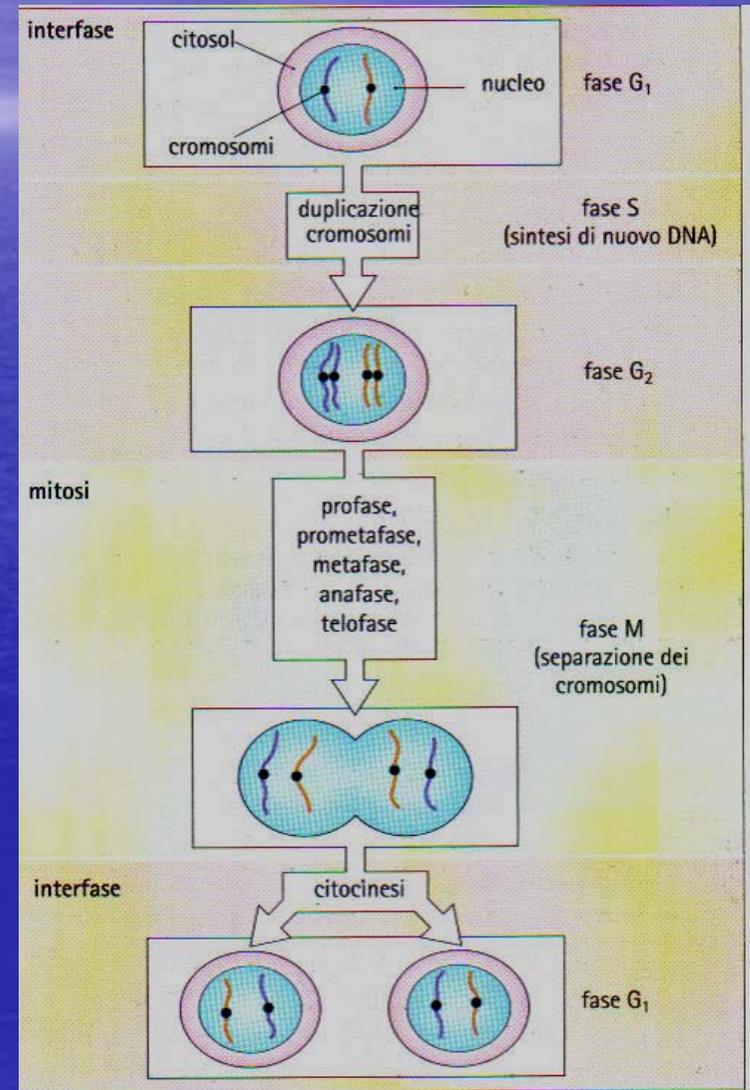
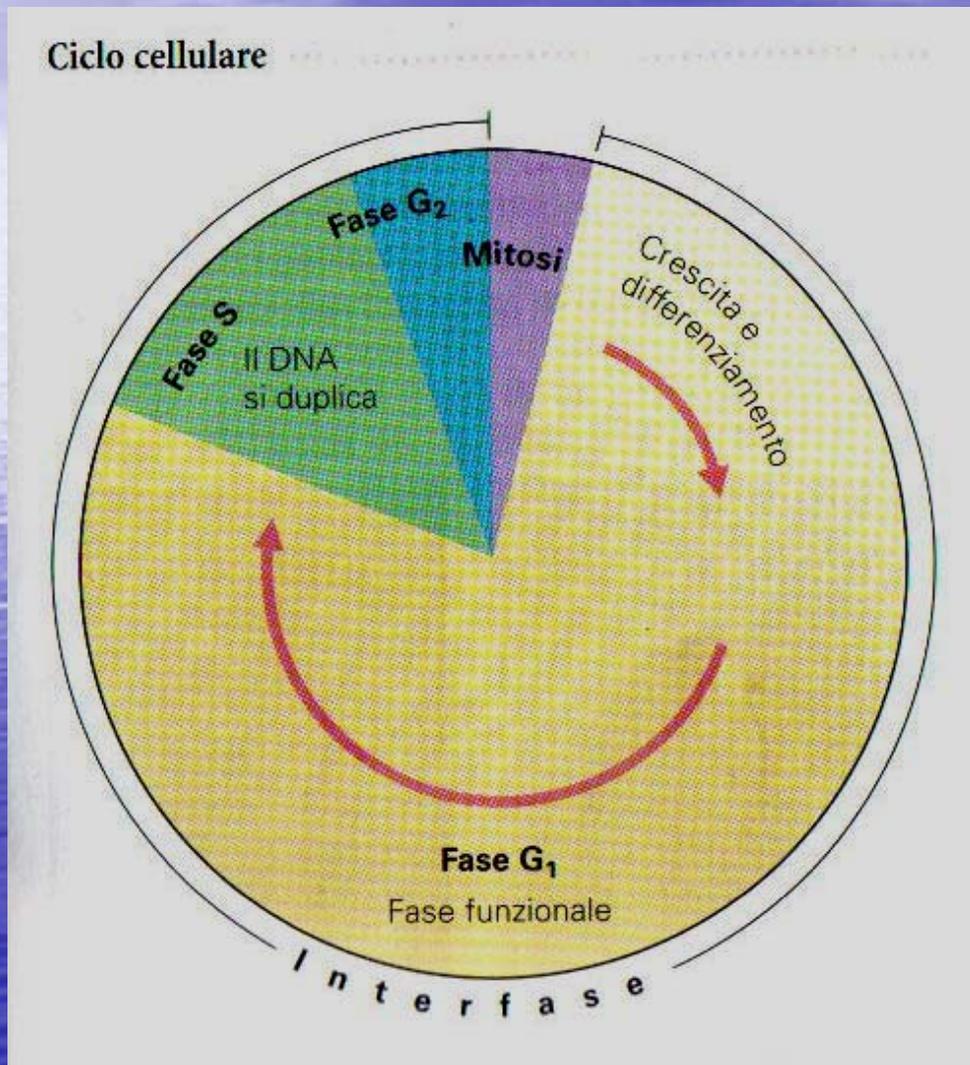
- Doppia membrana, DNA autonomo (endosimbionte)
- producono energia
- MIOPATIE MITOCONDRIALI

# RE e Golgi

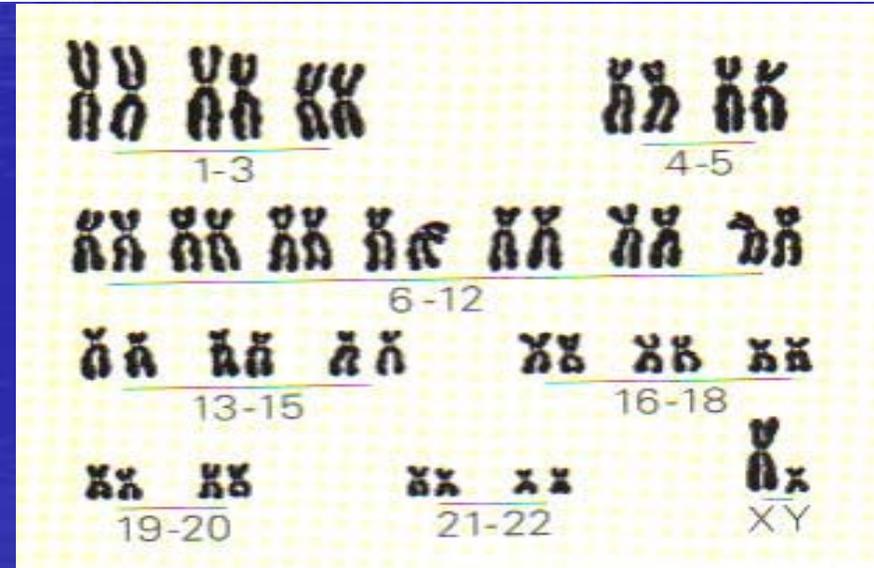
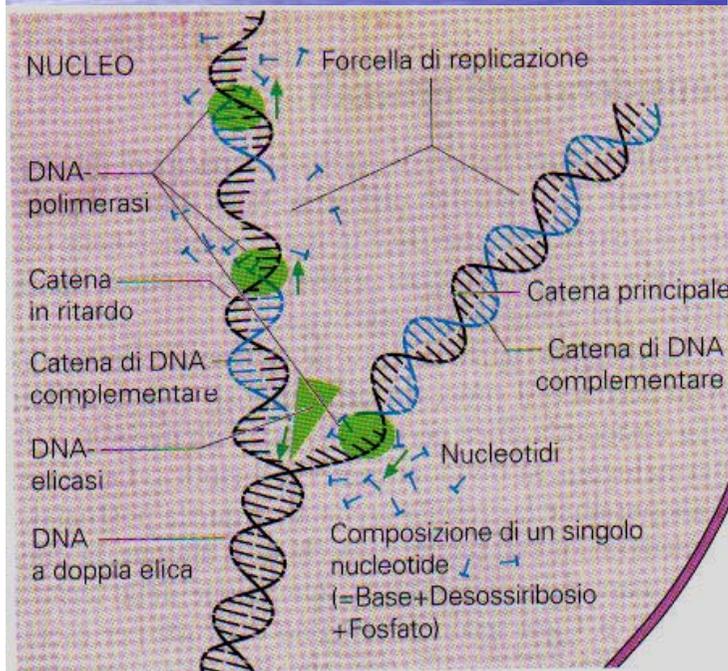
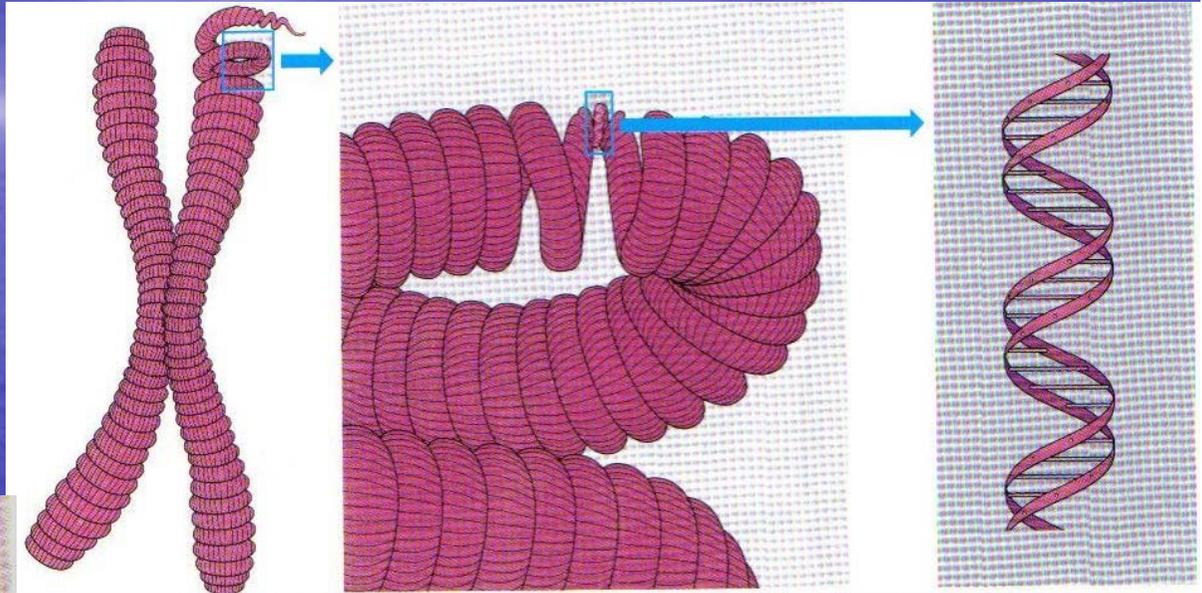
- Sintesi delle proteine
- ribosomi

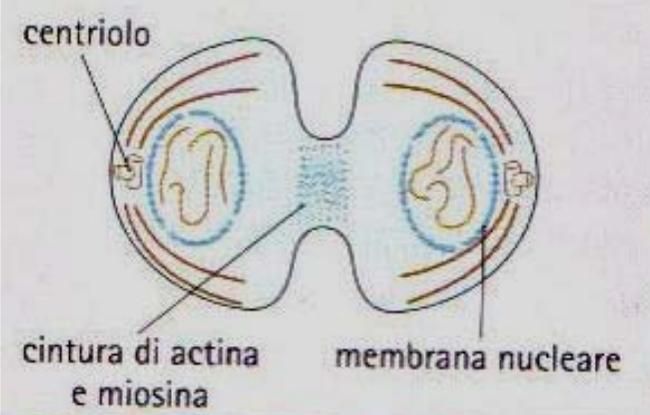
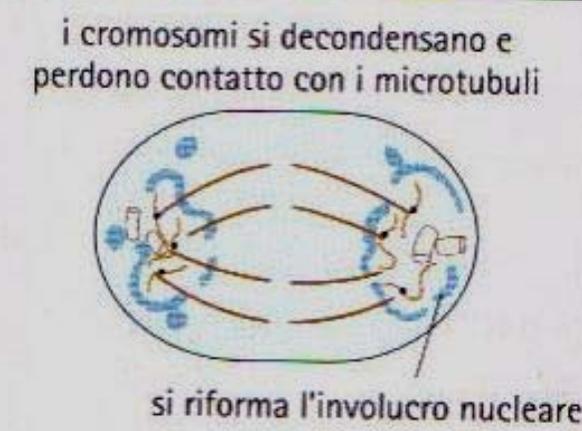
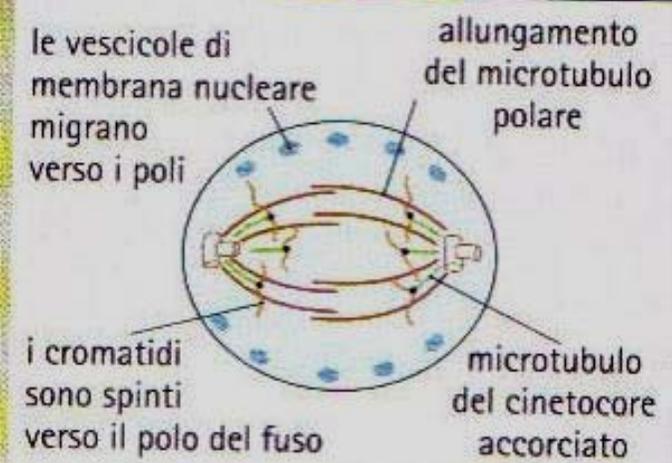
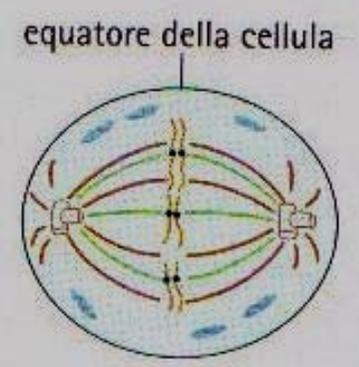
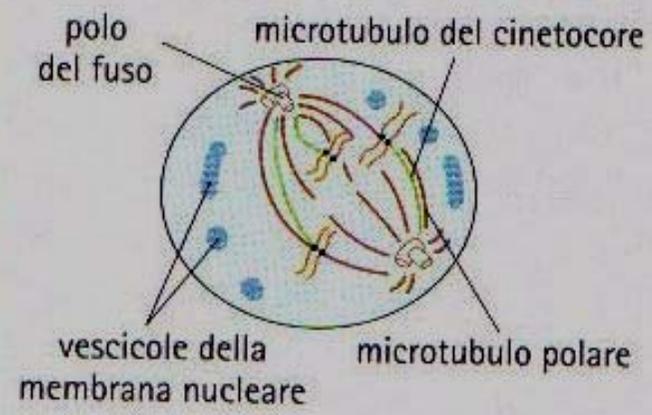
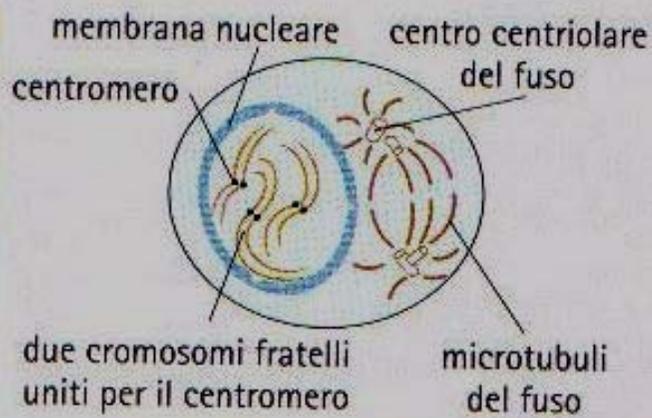


# Ciclo cellulare



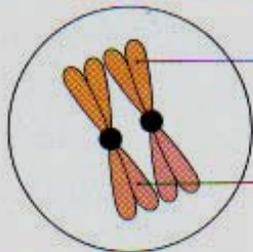
# Duplicazione DNA





# Meiosi

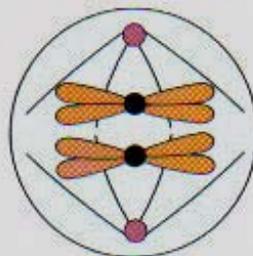
## Replicazione cromosomica



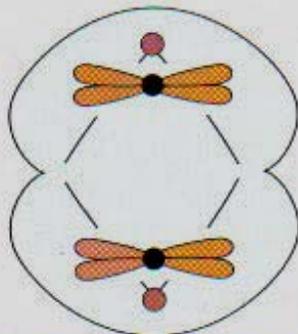
cromosoma paterno replicato

cromosoma materno replicato

## Prima divisione meiotica

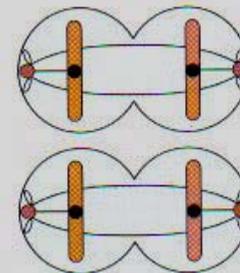
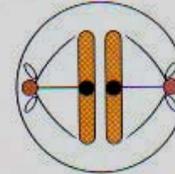
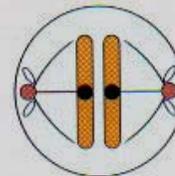


cromosomi omologhi allineati sul fuso



la prima divisione meiotica separa gli omologhi

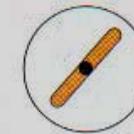
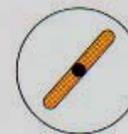
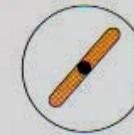
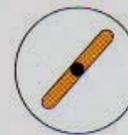
## Seconda divisione meiotica



seconda divisione meiotica in due cellule figlie

i cromosomi replicati si separano

## Gameti

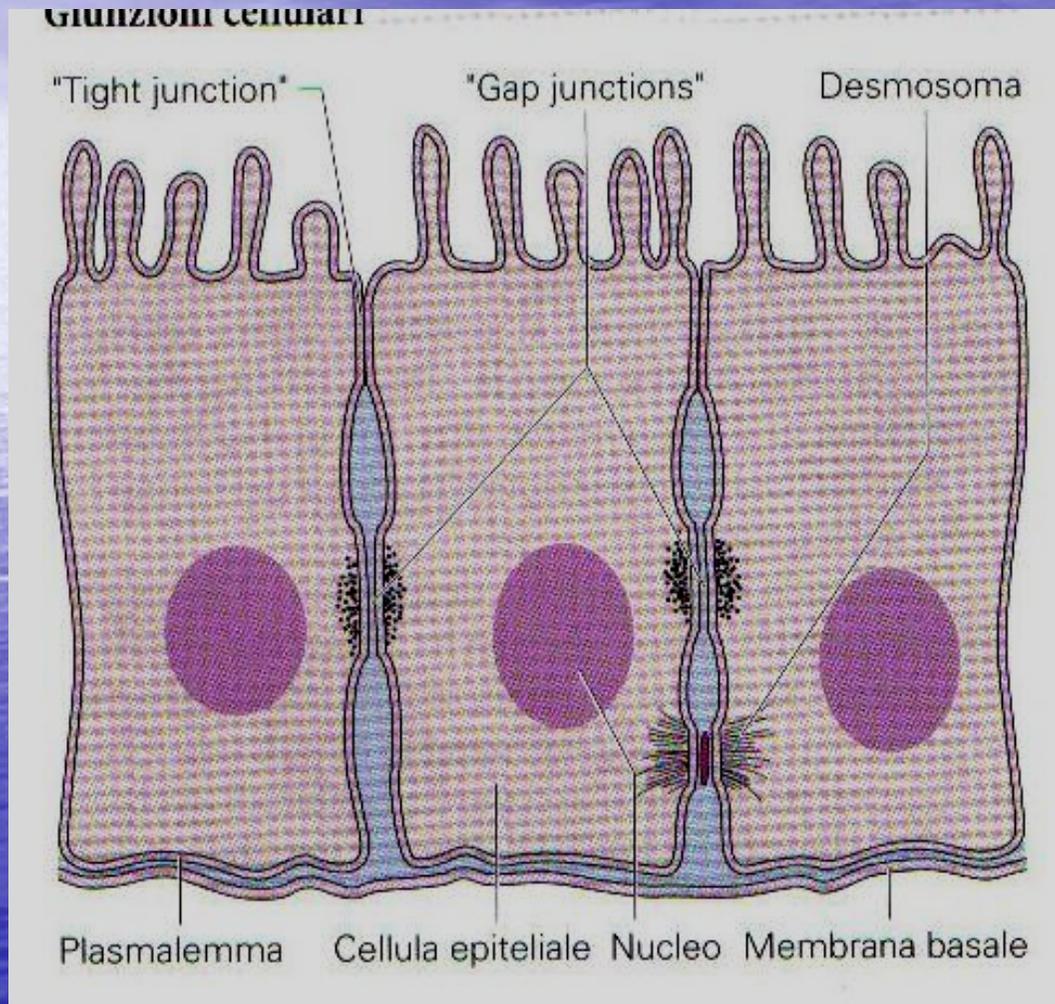


quattro cellule figlie aploidi

# Tessuti

epiteliale  
connettivo  
osseo  
sangue  
muscolare  
nervoso

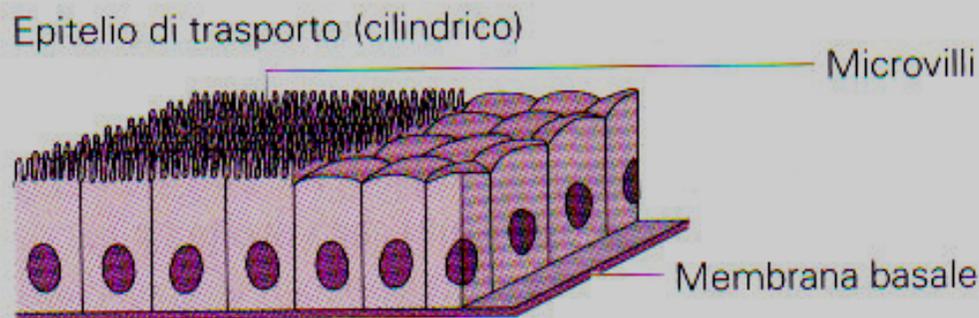
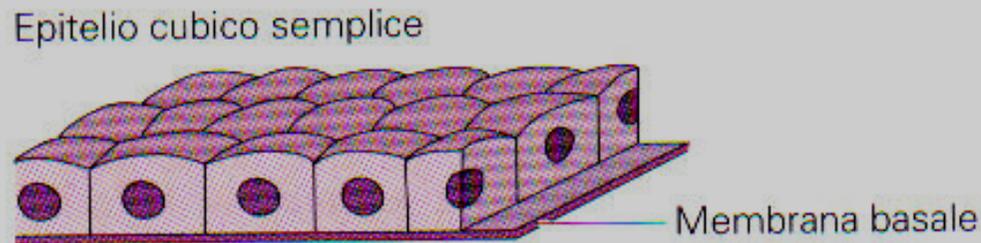
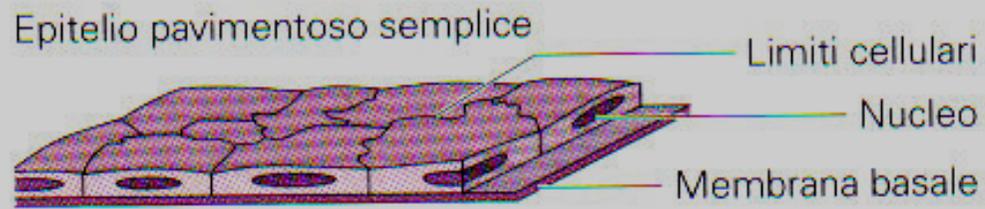
# Tessuto epiteliale



- Membrana basale
- giunzioni:
  - gap junctions
  - tight junctions
  - desmosomi
- polarità

PEMFIGO

# Epitelio semplice

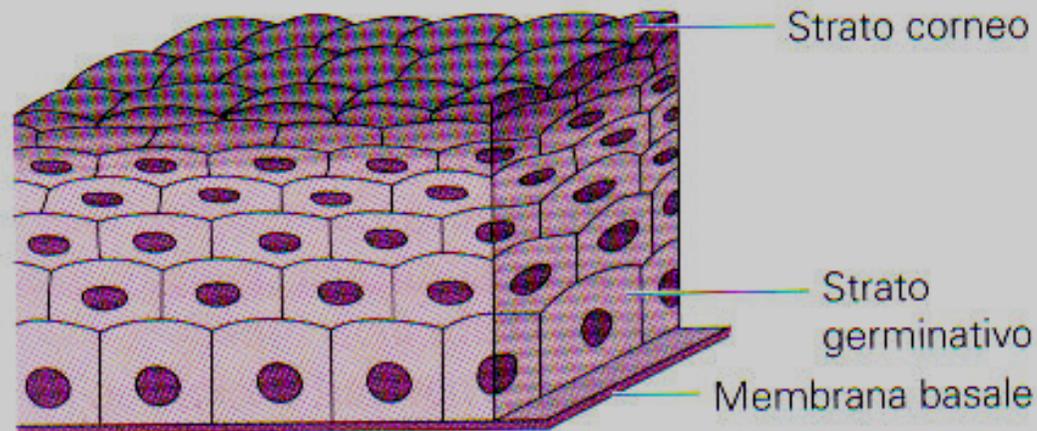


Funzione di trasporto  
(polarizzate)

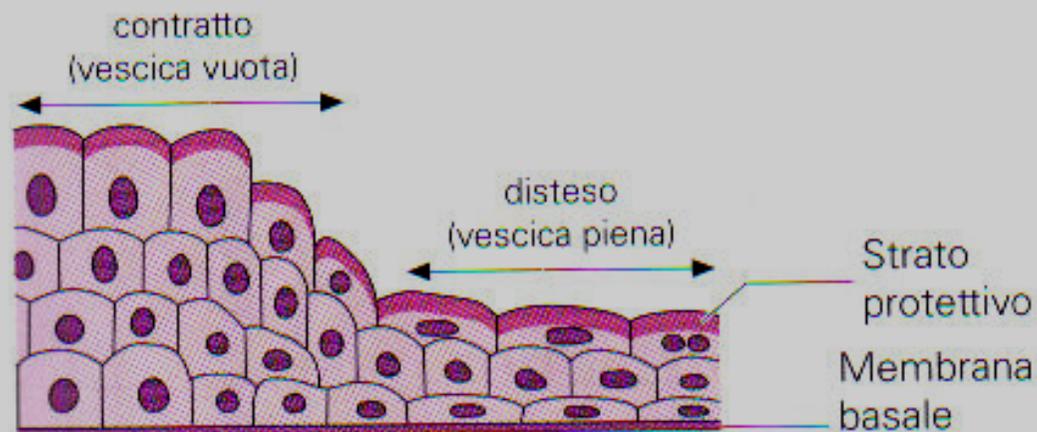
alveoli polmonari  
stomaco  
intestino  
tubuli renali

# Epitelio composto

Epitelio pavimentoso stratificato



Epitelio di transizione



Sollecitazioni  
meccaniche  
(rigenerazione)

cute  
esofago  
vagina  
vescica

# Tessuto connettivo



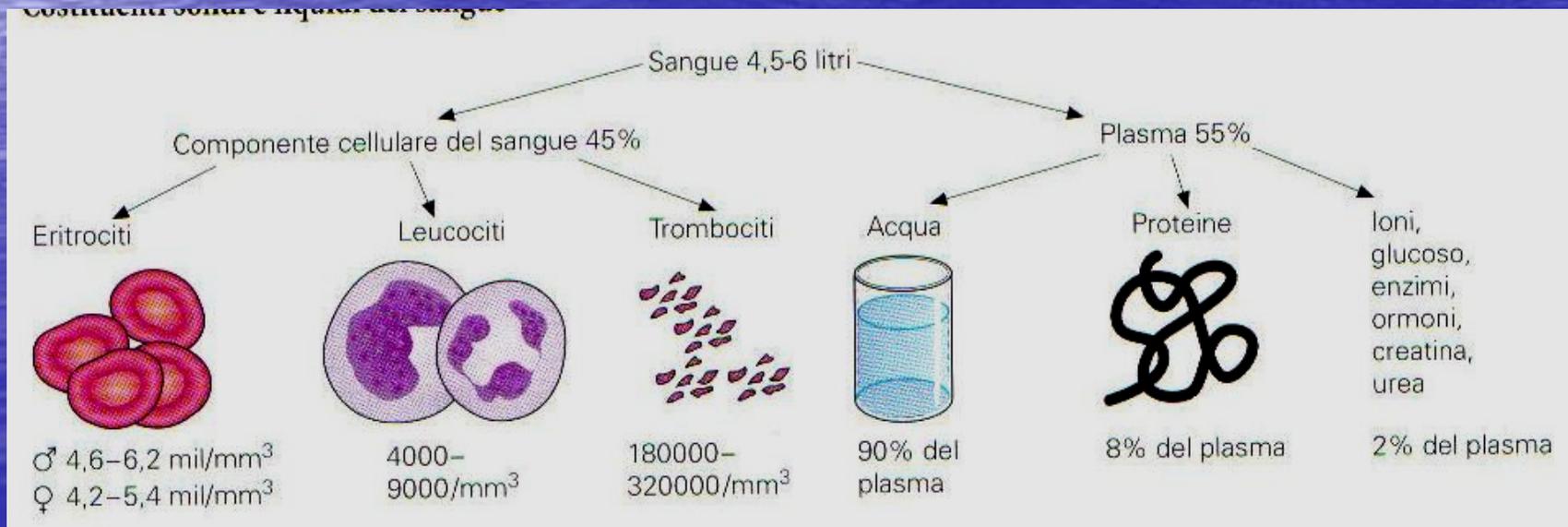
riempimento  
(fibroblasti, matrice  
extracellulare di

- lasso: adipe
- reticolare: linfonodo
- denso: tendini, osso

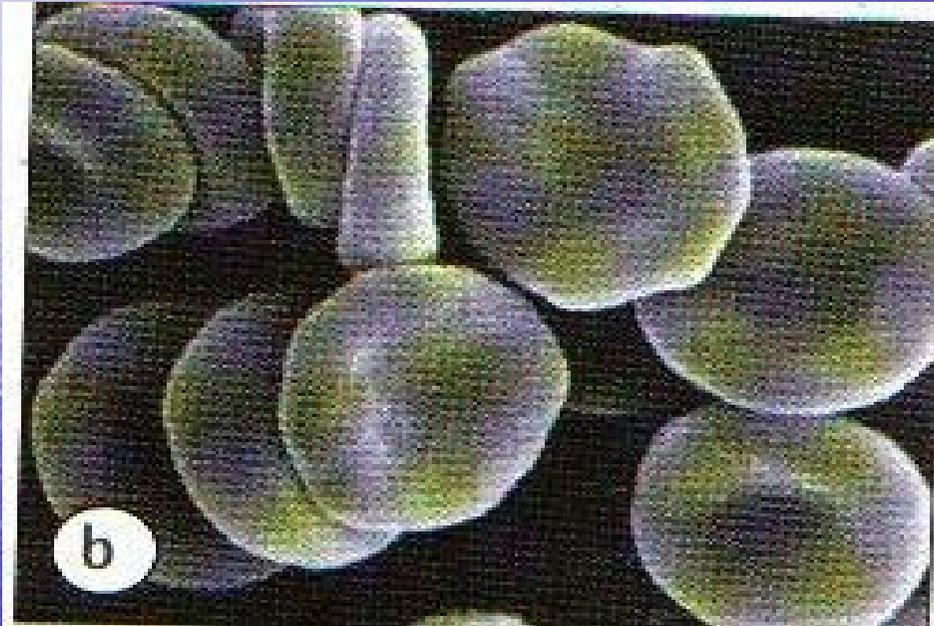
MARFAN

# Sangue

- Serie rossa (eritrociti): trasporto O<sub>2</sub>
- serie bianca (leucociti): difesa immunitaria
- piastrine: coagulazione
- plasma: soluzione proteica



# Globuli rossi



Forma biconcava  
colore rosso (Hb)  
senza nucleo

ANEMIA

Sferocitosi ereditaria

# Globuli bianchi

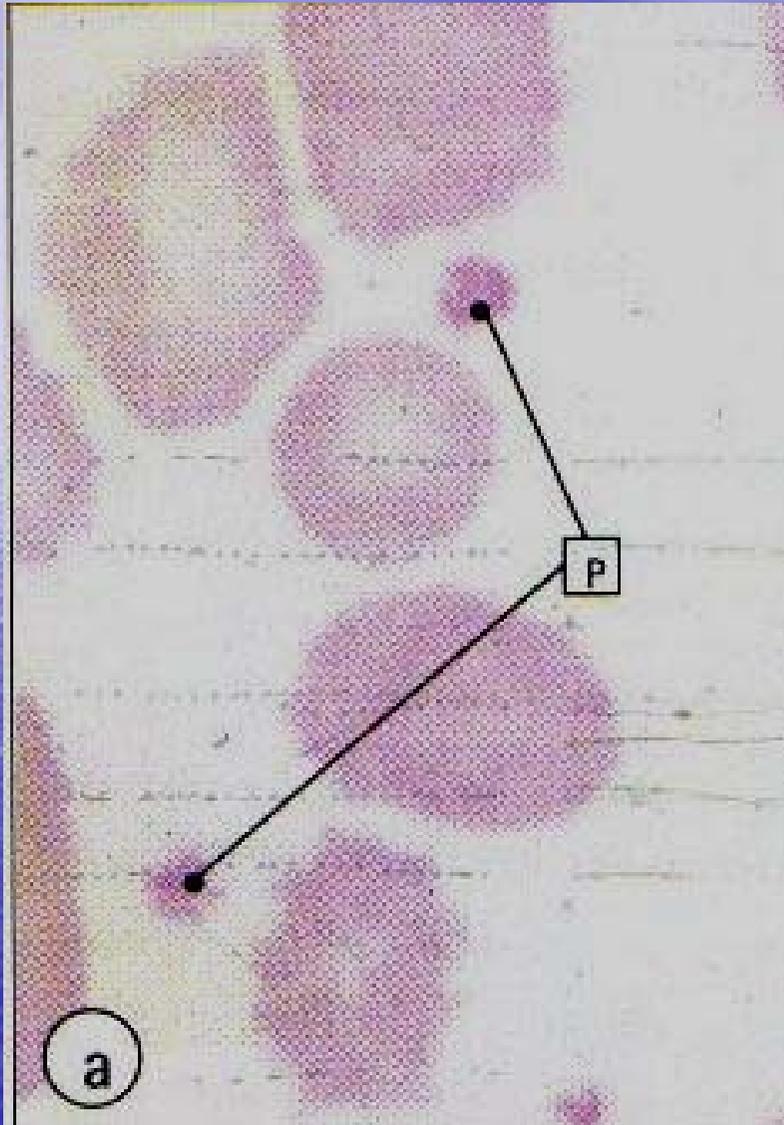
- Granulociti:
  - Neutrofili (60%) *batteri*
  - eosinofili (5%) *parassitosi e allergie*
  - basofili (1%) *allergie*
- monociti (5%) *spazzini*
- linfociti (30%) *risp immunitaria specifica*

# Linfociti

- B: anticorpi, cellule memoria
- T: helper, citotossici, soppressori

IMMUNODEFICIENZE

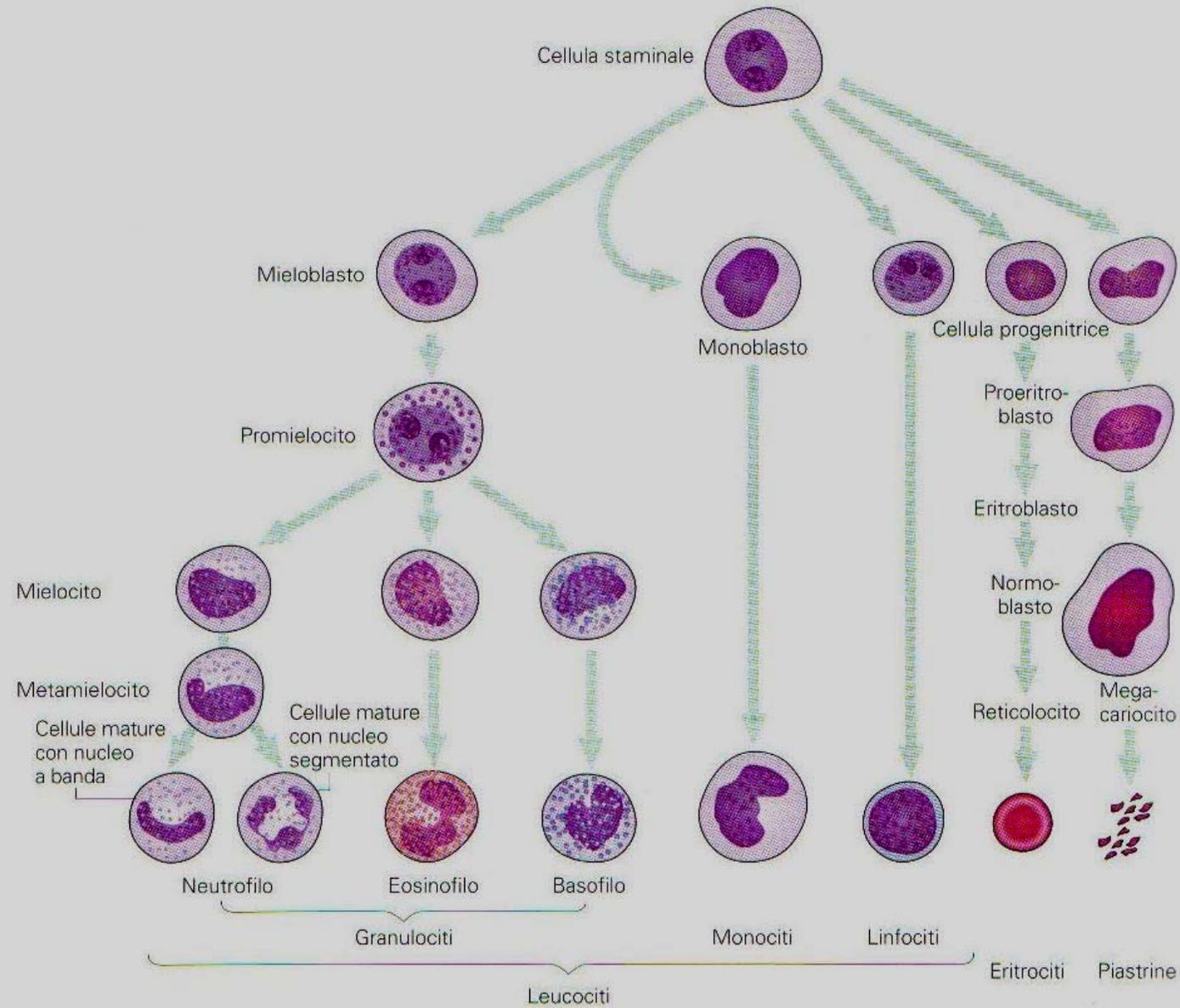
# Piastrine



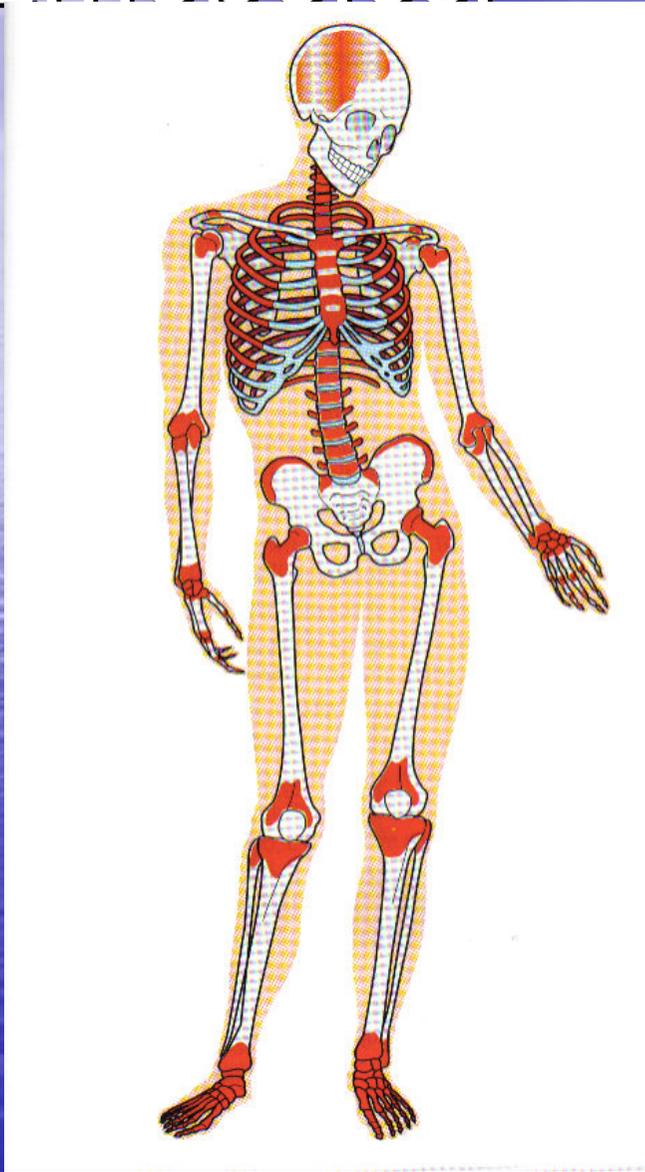
- Anucleate
- granuli

# Emopoiesi

Stadi di formazione di leucociti, eritrociti e piastrine



# Emopoiesi



- Midollo rosso (ossa piatte)
- fegato-milza-sacco vitellino