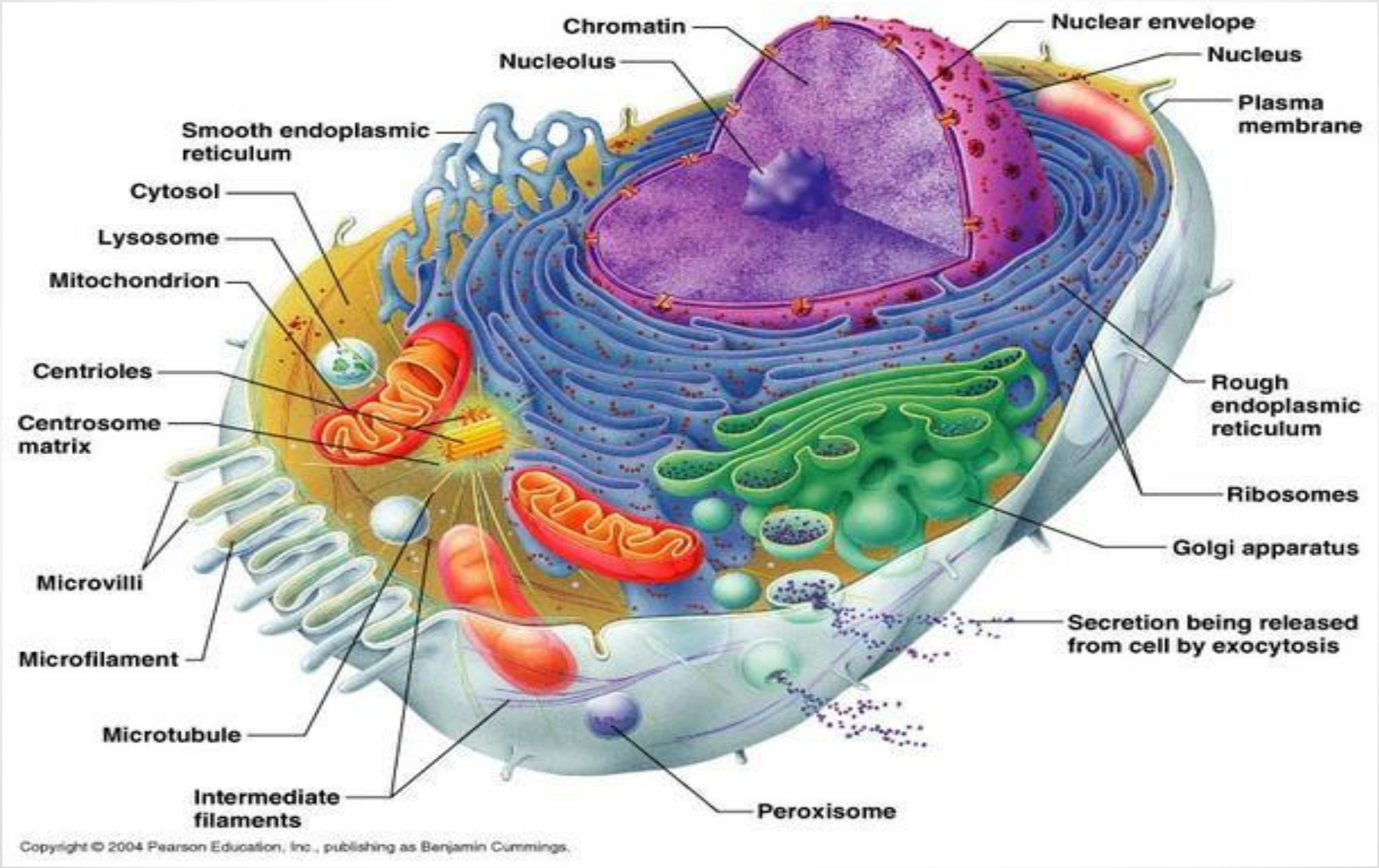
Koostanud: Ülle Irdt

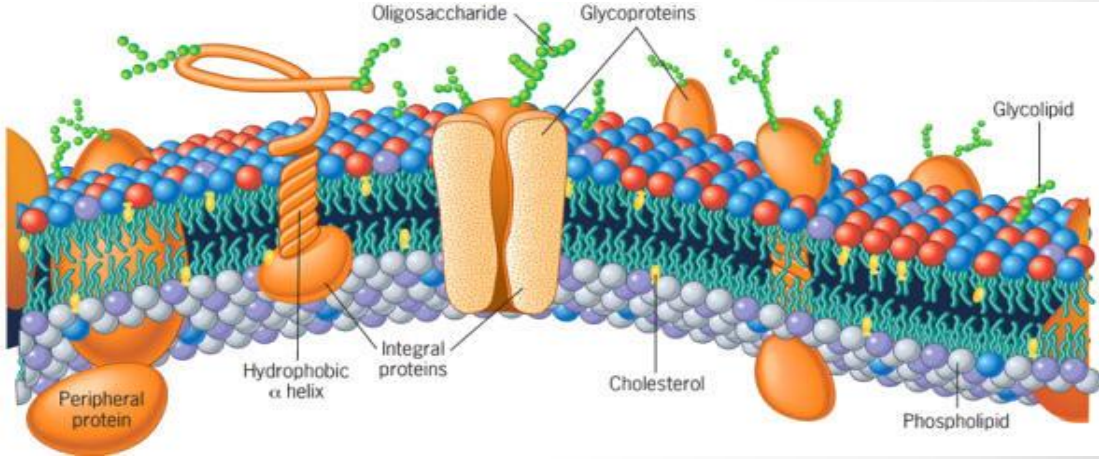
Loomarakk



- https://www.youtube.com/watch?v=URUJD5NEXC8&t=240s

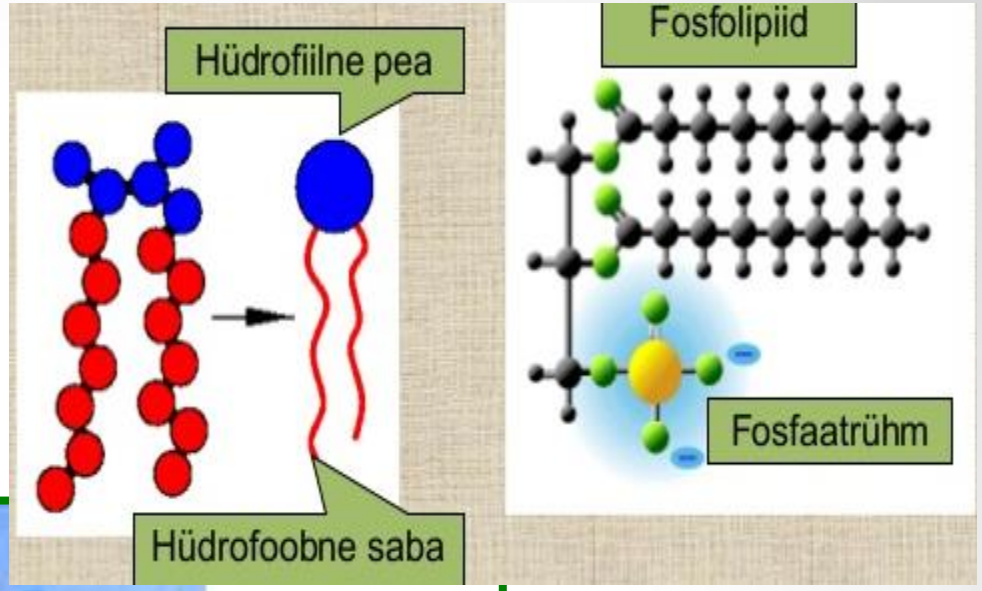
Rakumembraan

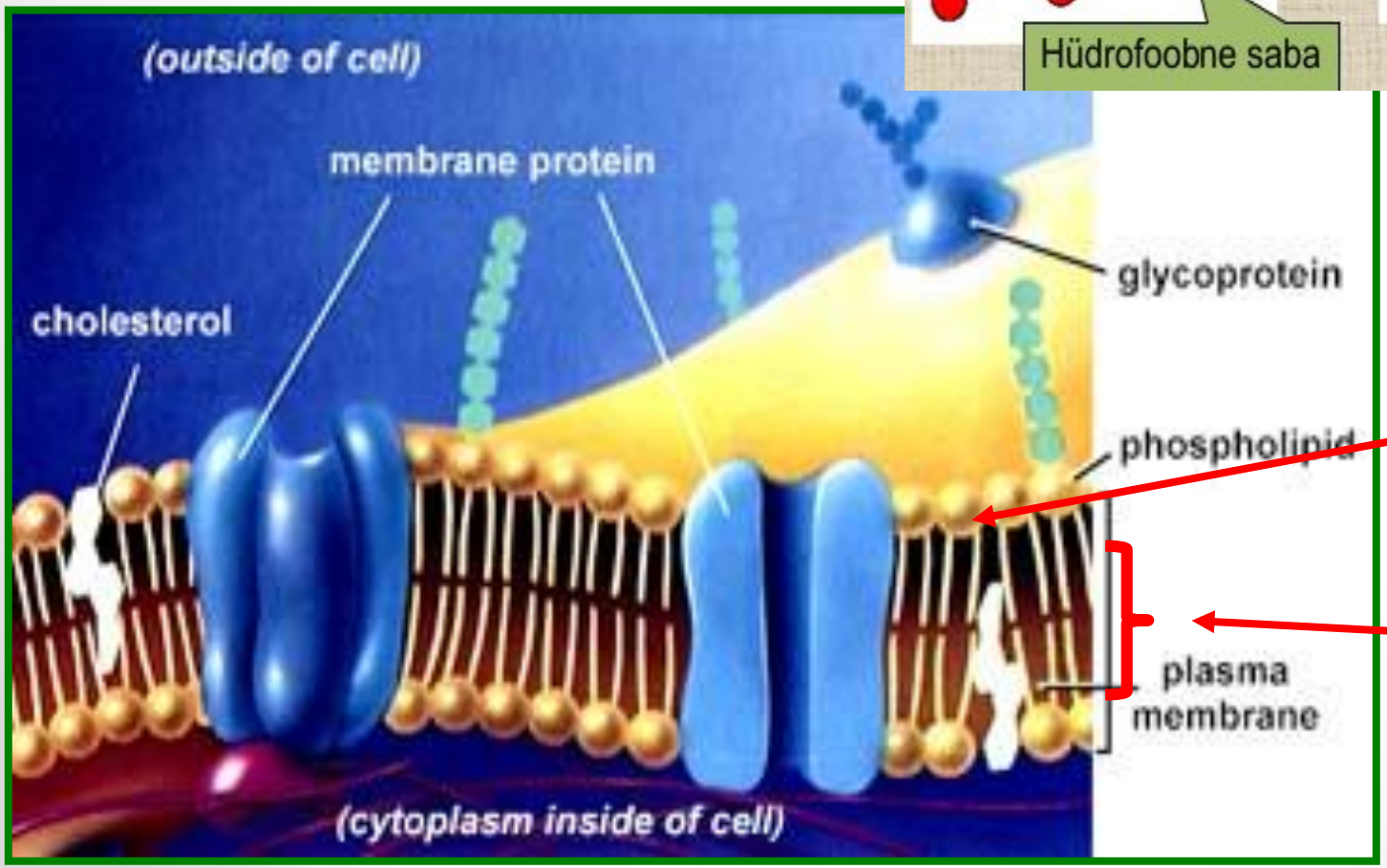
- Rakke ümbritseb **rakumembraan**:
  - Taimerakul on lisaks kest (tselluloos)
  - Loomarakul: õhuke süsivesikute ja valkude kiht- glükokalüks
- Membraani ülesanded:
  - Aine-, energia- ja informatsiooni- vahetus



- Koosneb:
  - Fosfolipiidide kaksikkiht, valgud ja kolesteroolimolekulid (loomarakul)

Raku-membraan





Hüdrofiilne

Hüdrofoobne

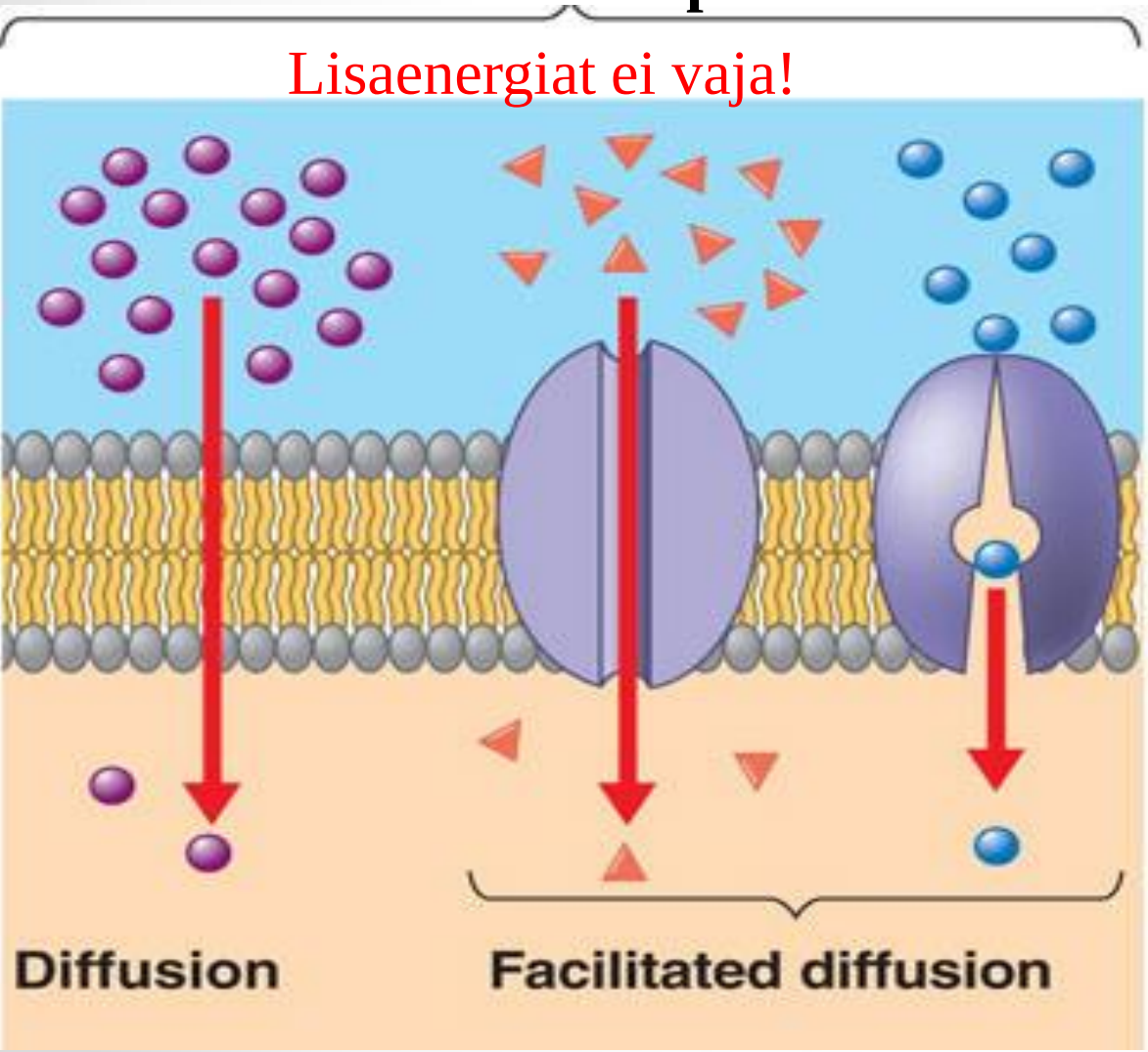
Ainete transport

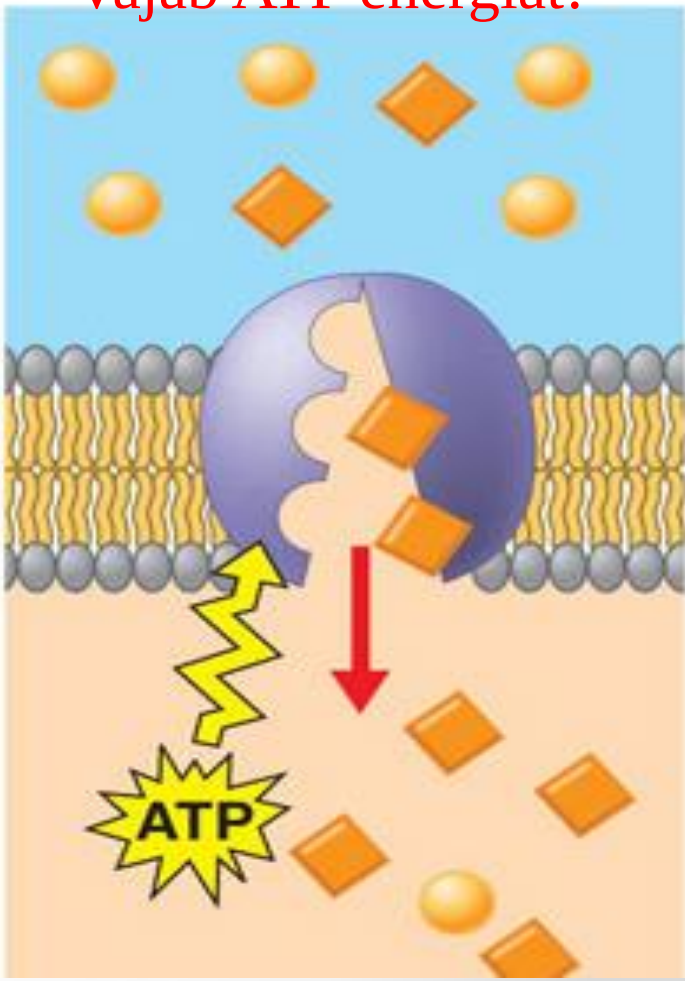
Passiivne transport

Lisaenergiat ei vaja!

Aktiivne transport

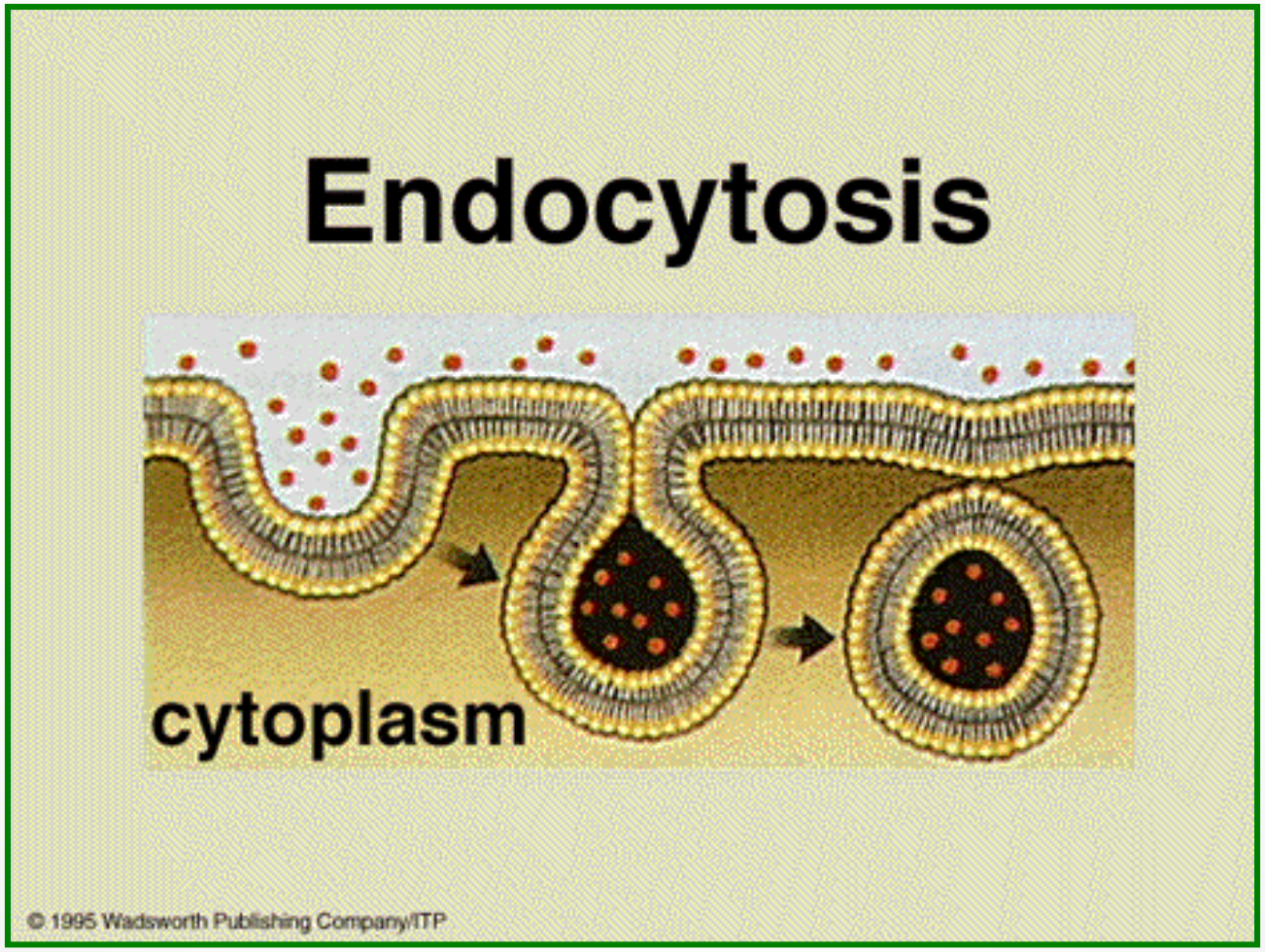
Vajab ATP energiat!



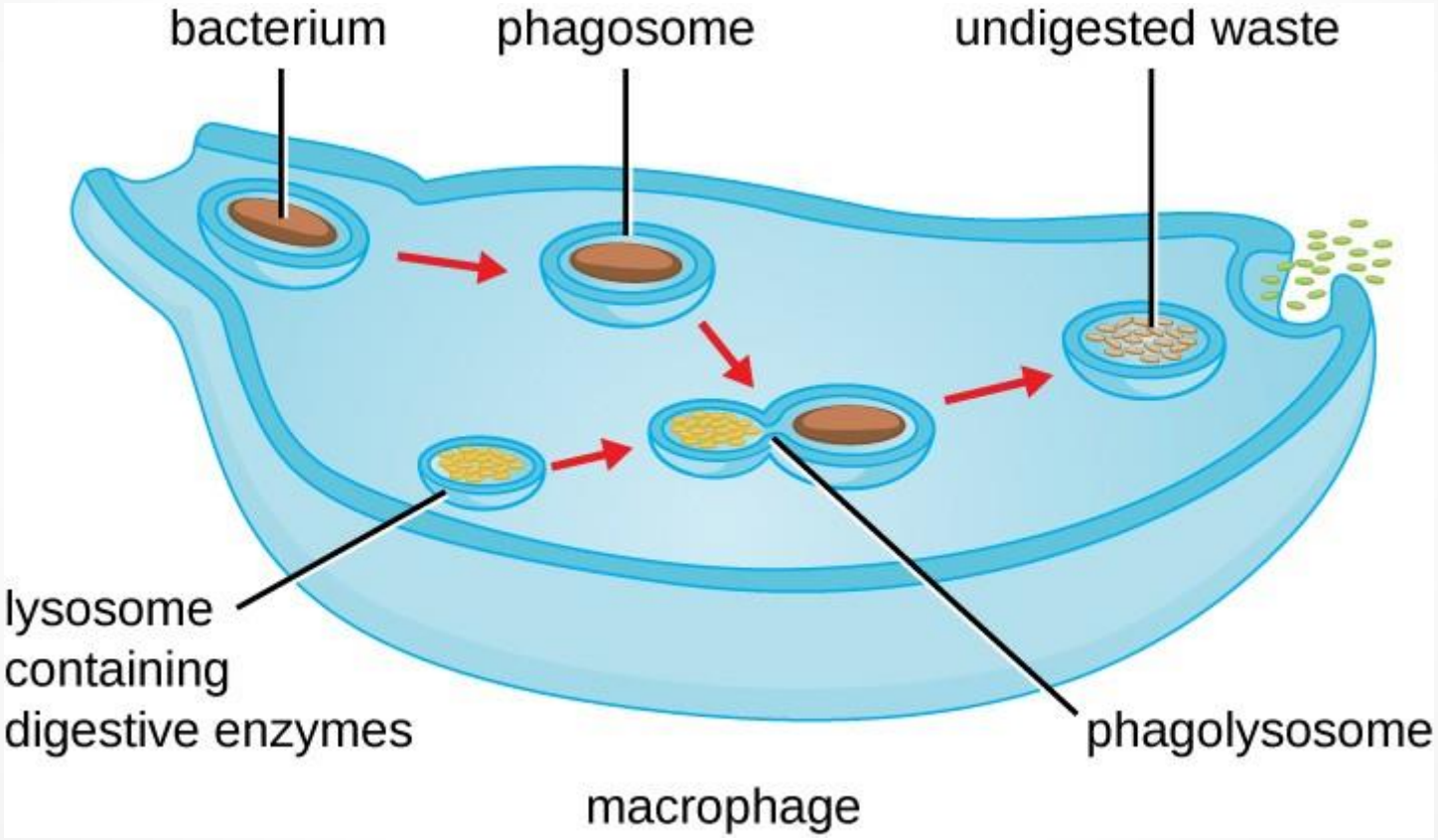


Fagotsütoos:

1)Endotsütoos: aine omandamine

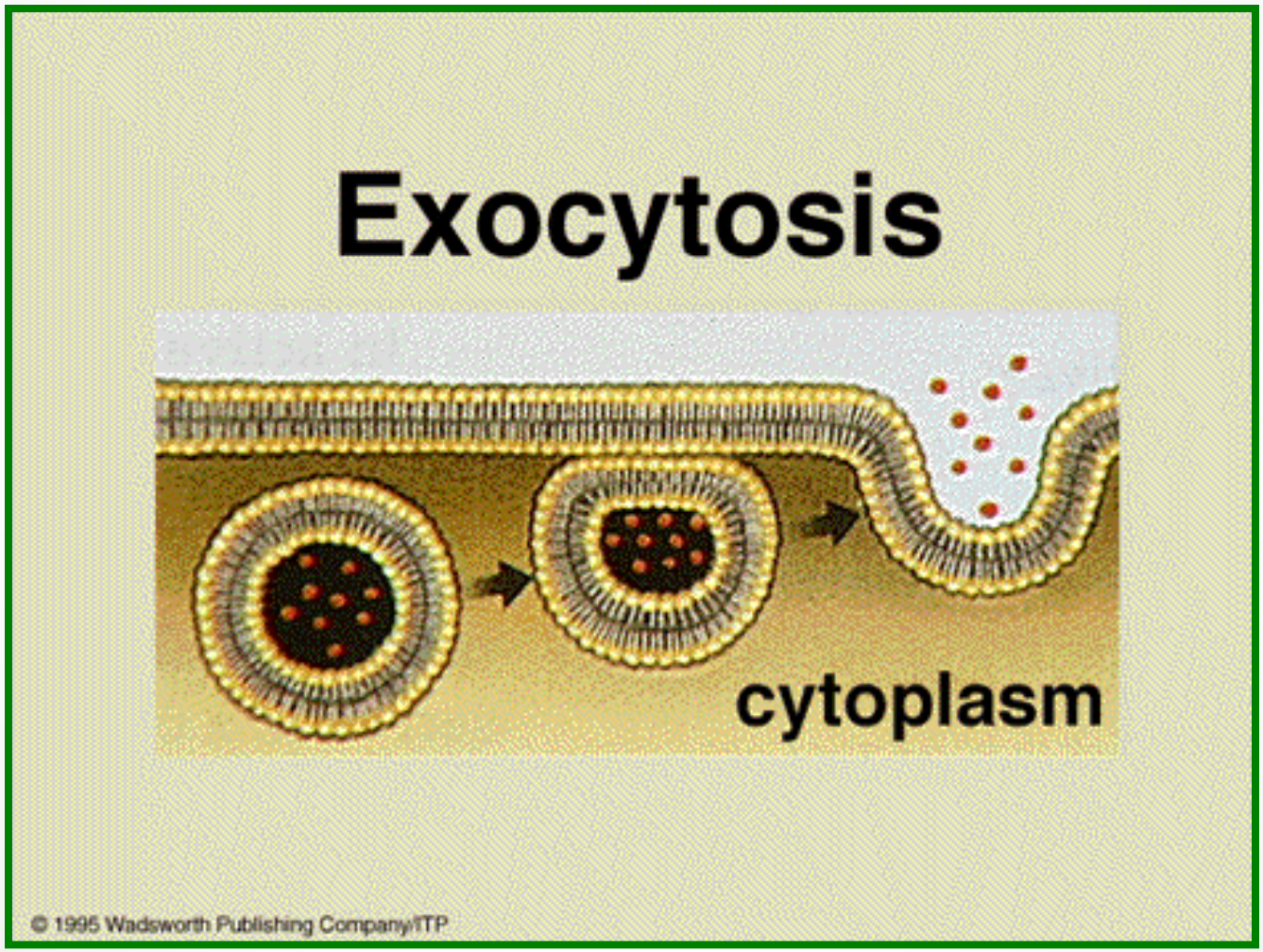


2) Sekundaarse lüsosoomi moodustumine, ainete lagundamine

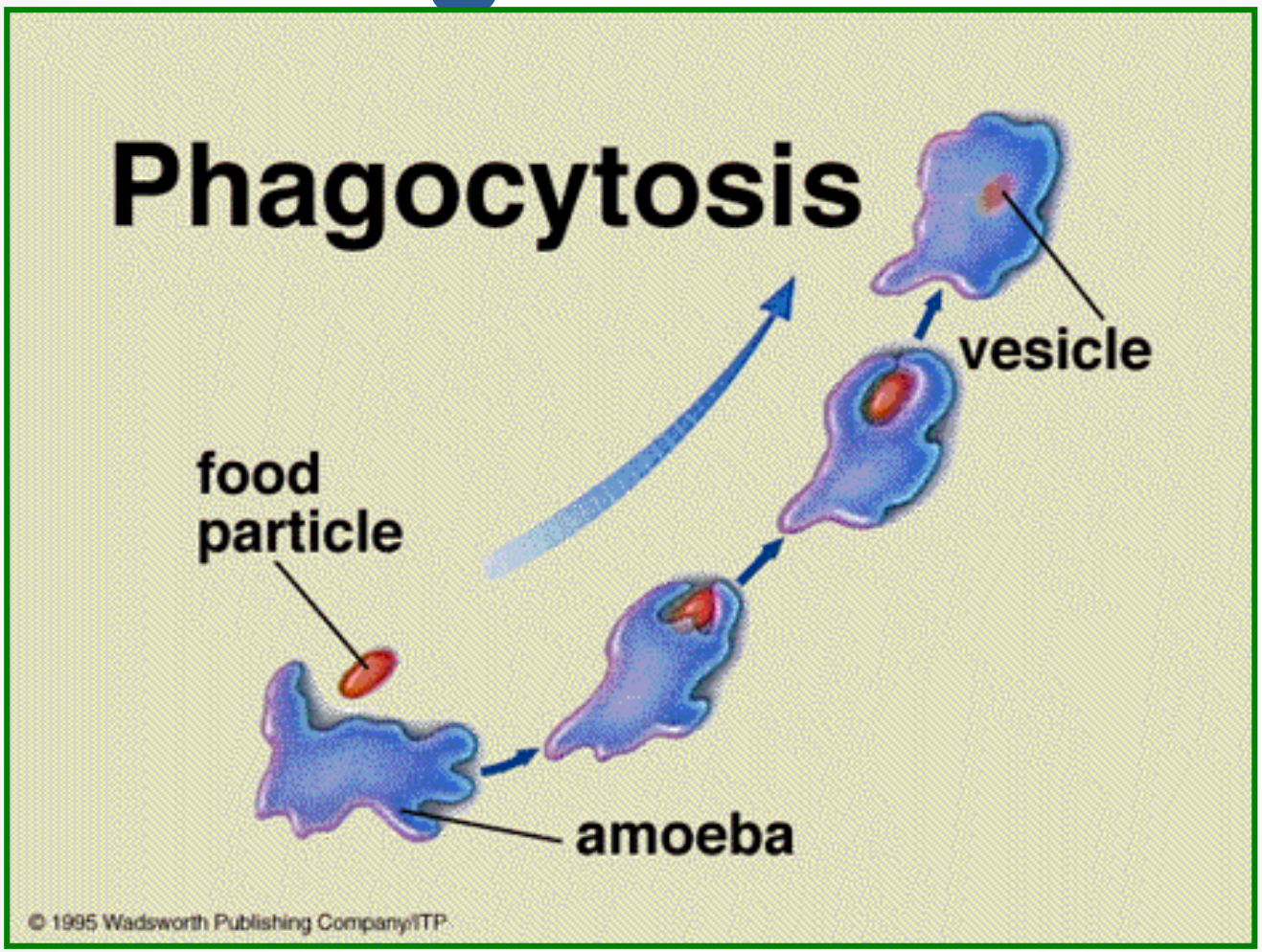


https://courses.lumenlearning.com/microbiology/chapter/pathogen-recognition-and-phagocytosis/

3) Eksotsütoos: ülejäägi väljaheitmine

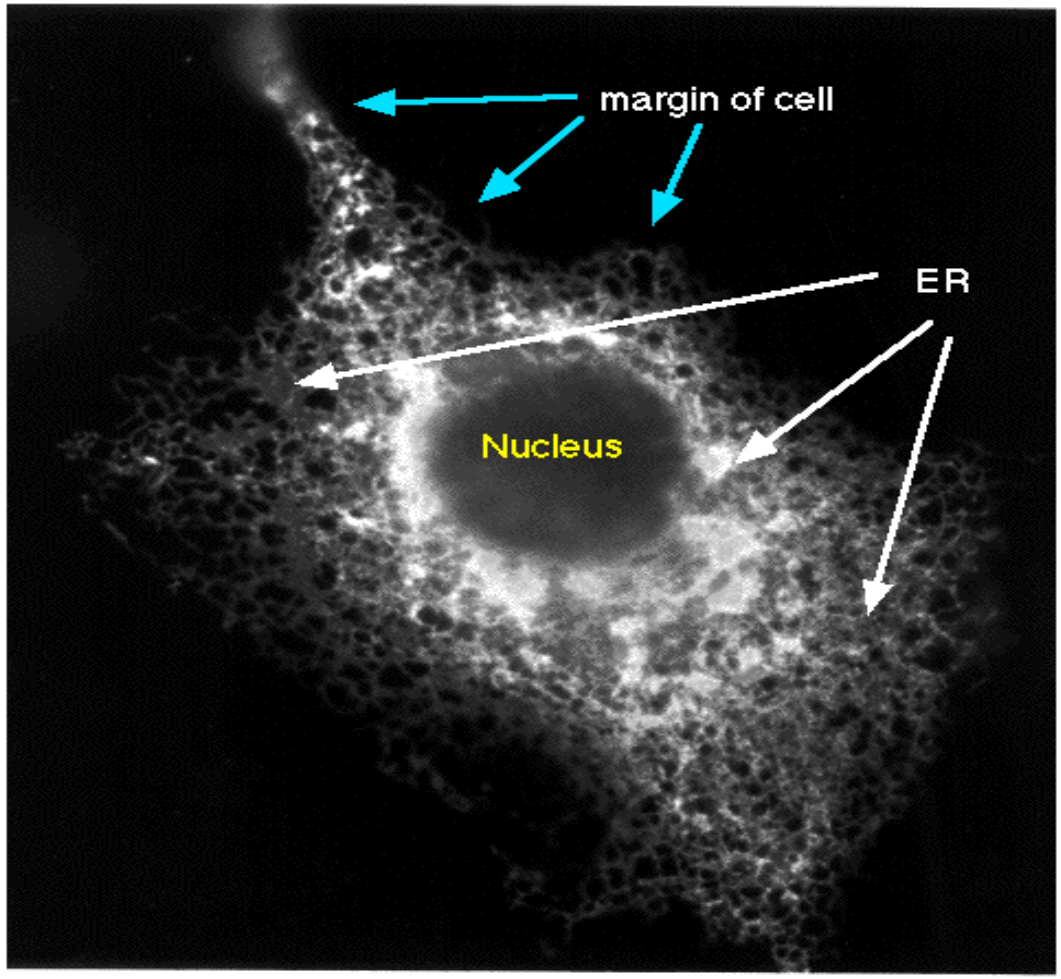


Fagotsütoos



http://www.youtube.com/watch?v=aWItglvTiLc&feature=related

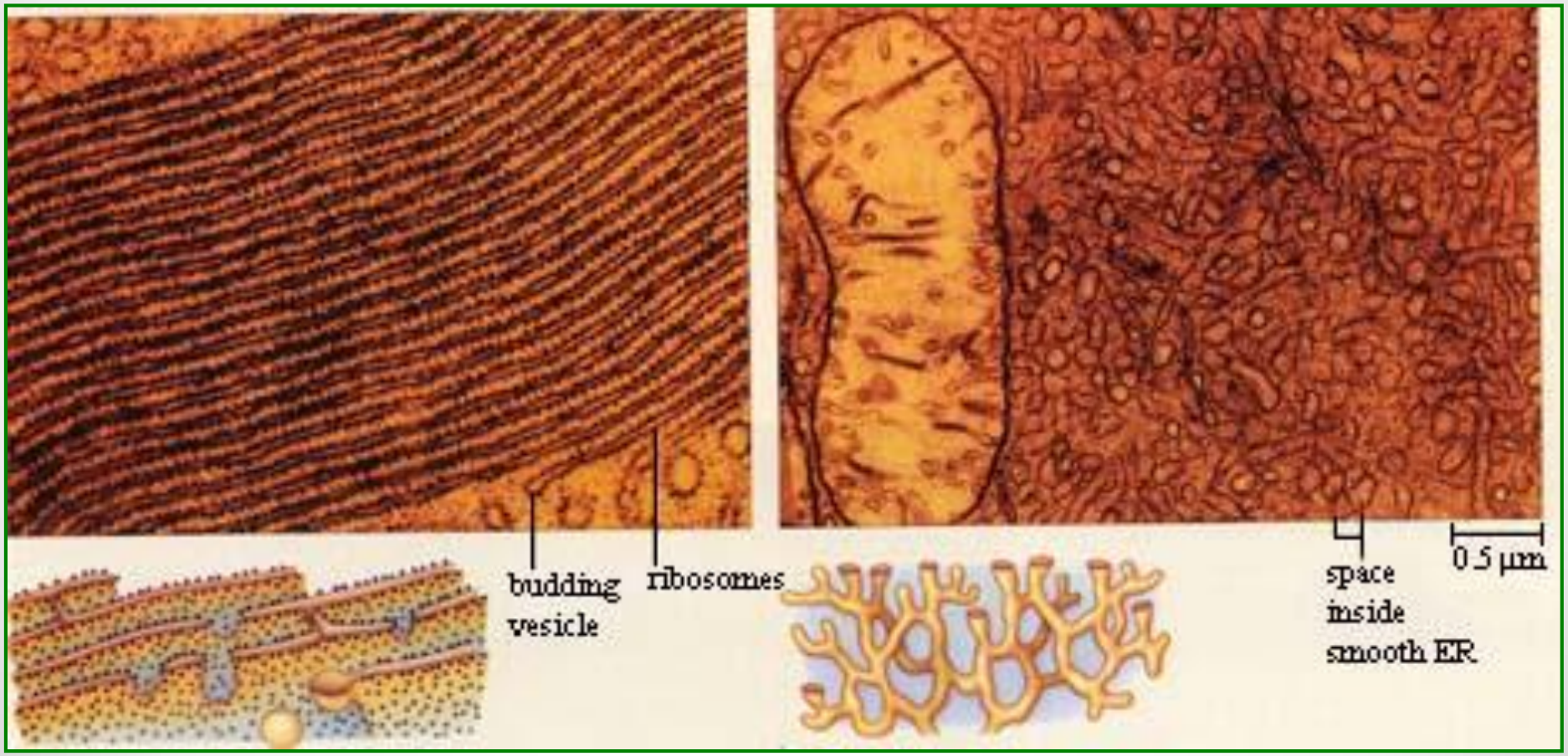
Tsütoplasmavõrgustik



https://www.youtube.com/watch?v=PASnAaulK-Y

Tsütoplasmavõrgustik

Karedapinnaline **Siledapinnaline**

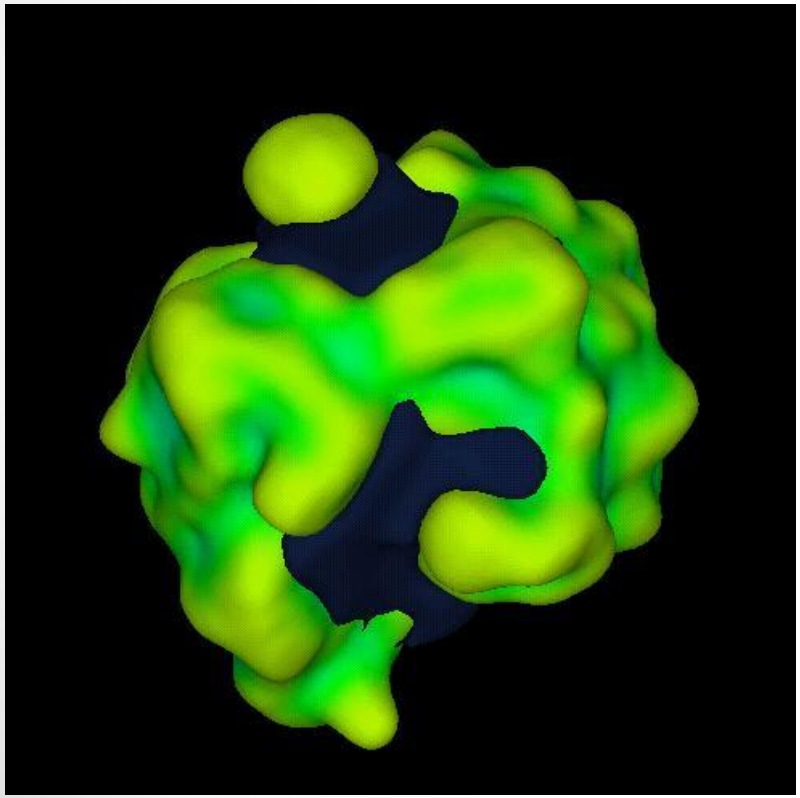


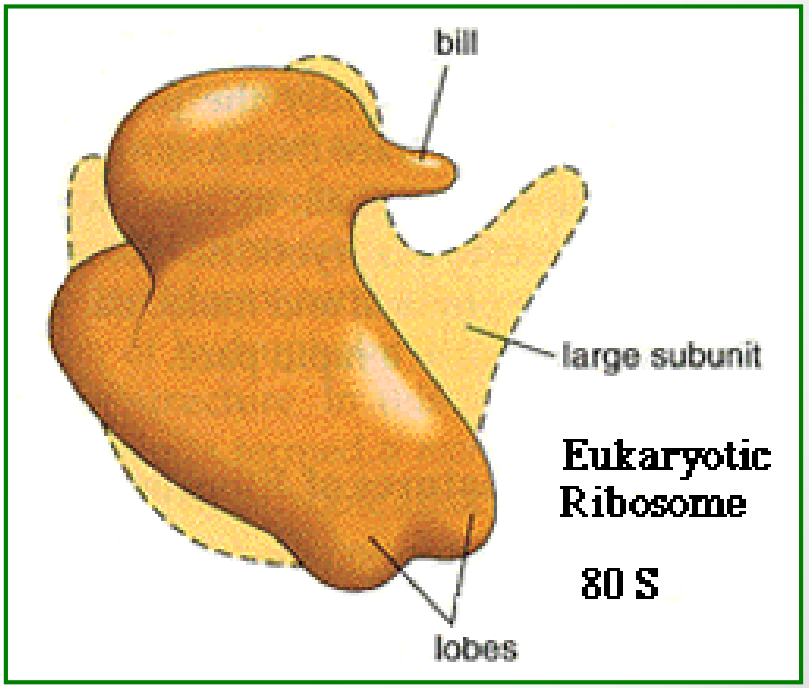
Valkude tootmine ja transport

Süsivesikute ja lipiidide tootmine ja transport

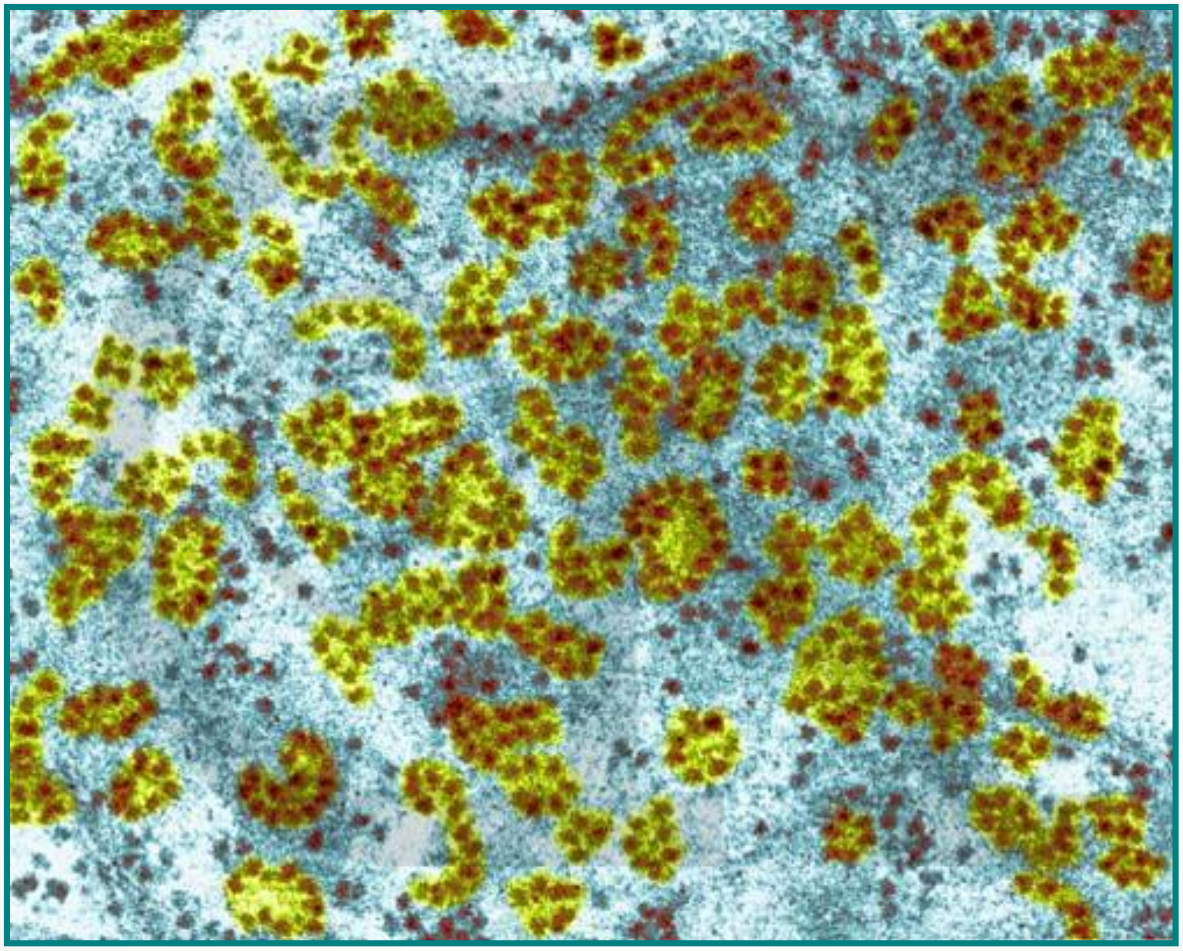
Ribosoom

Koosneb: rRNA ja valgud
Ülesanne: valgu süntees



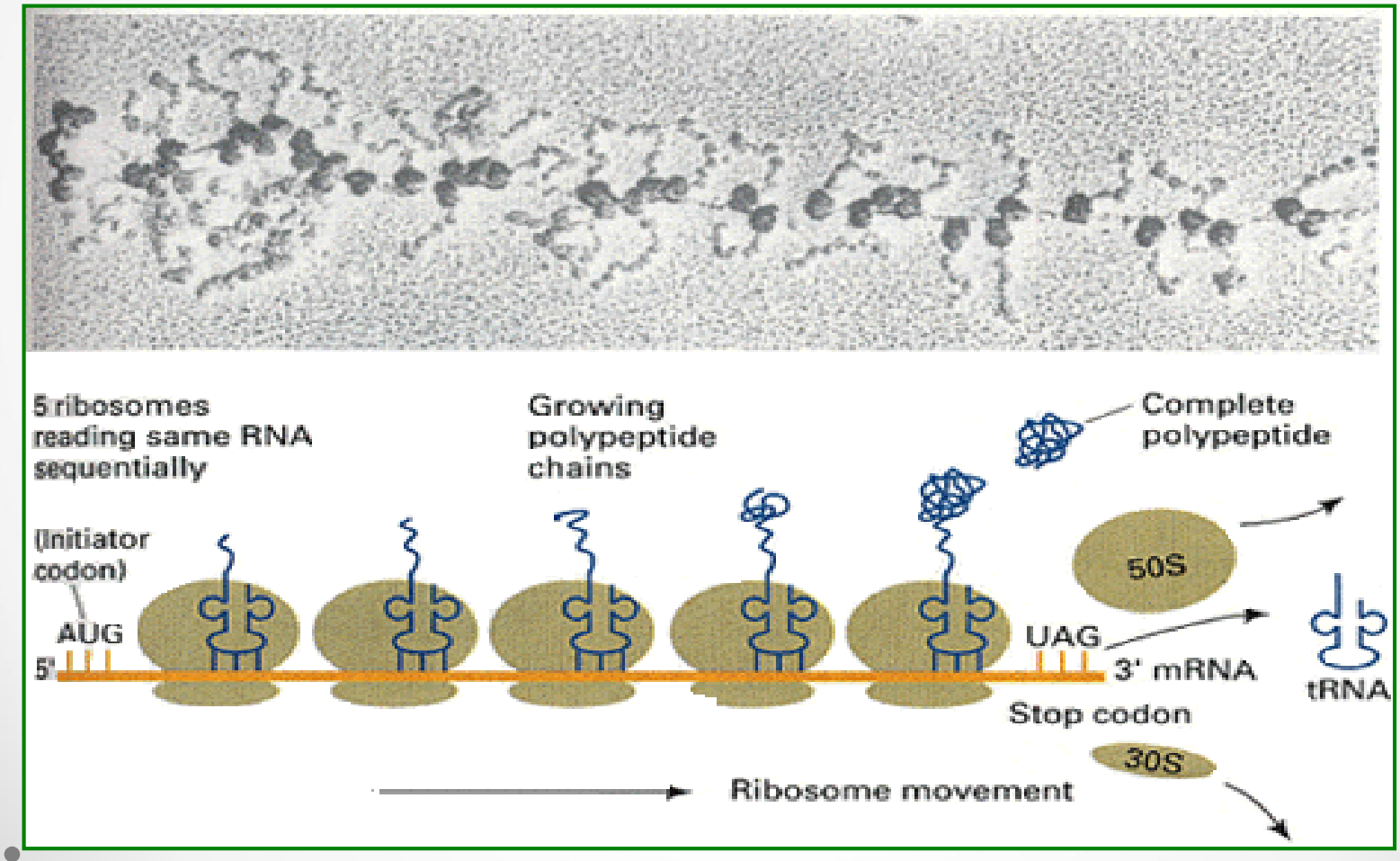


Ribosoomid



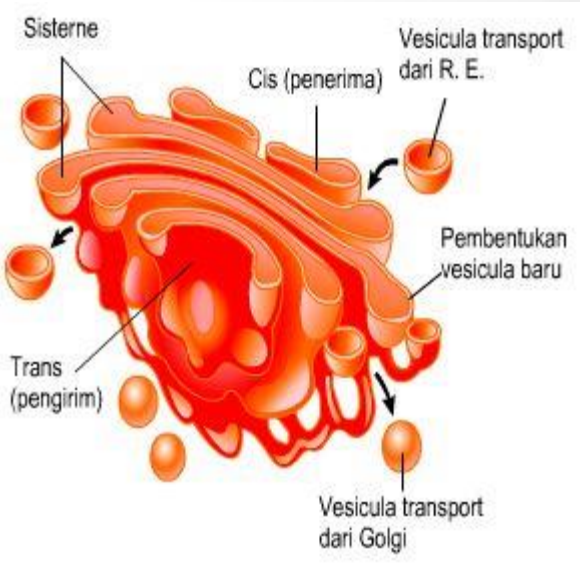
Polüsoom

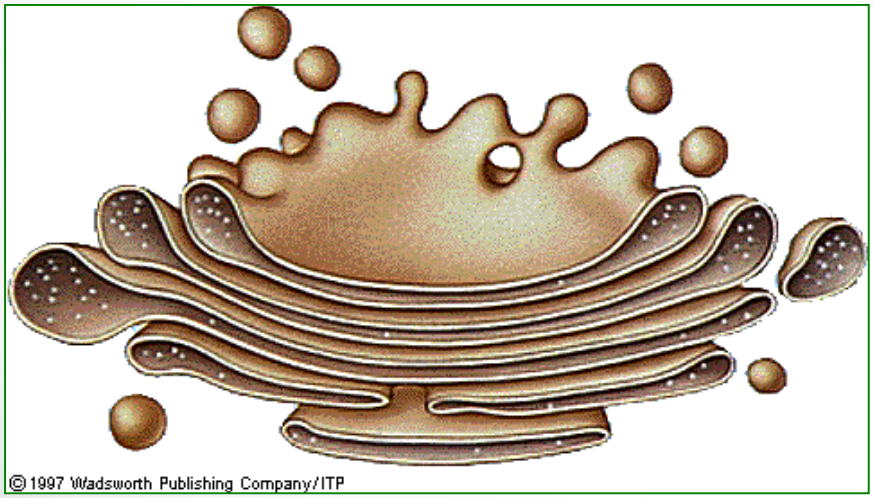
Ühte ja sama tüüpi valku tootvad ribosoomid=**Polüsoom**



Golgi kompleks

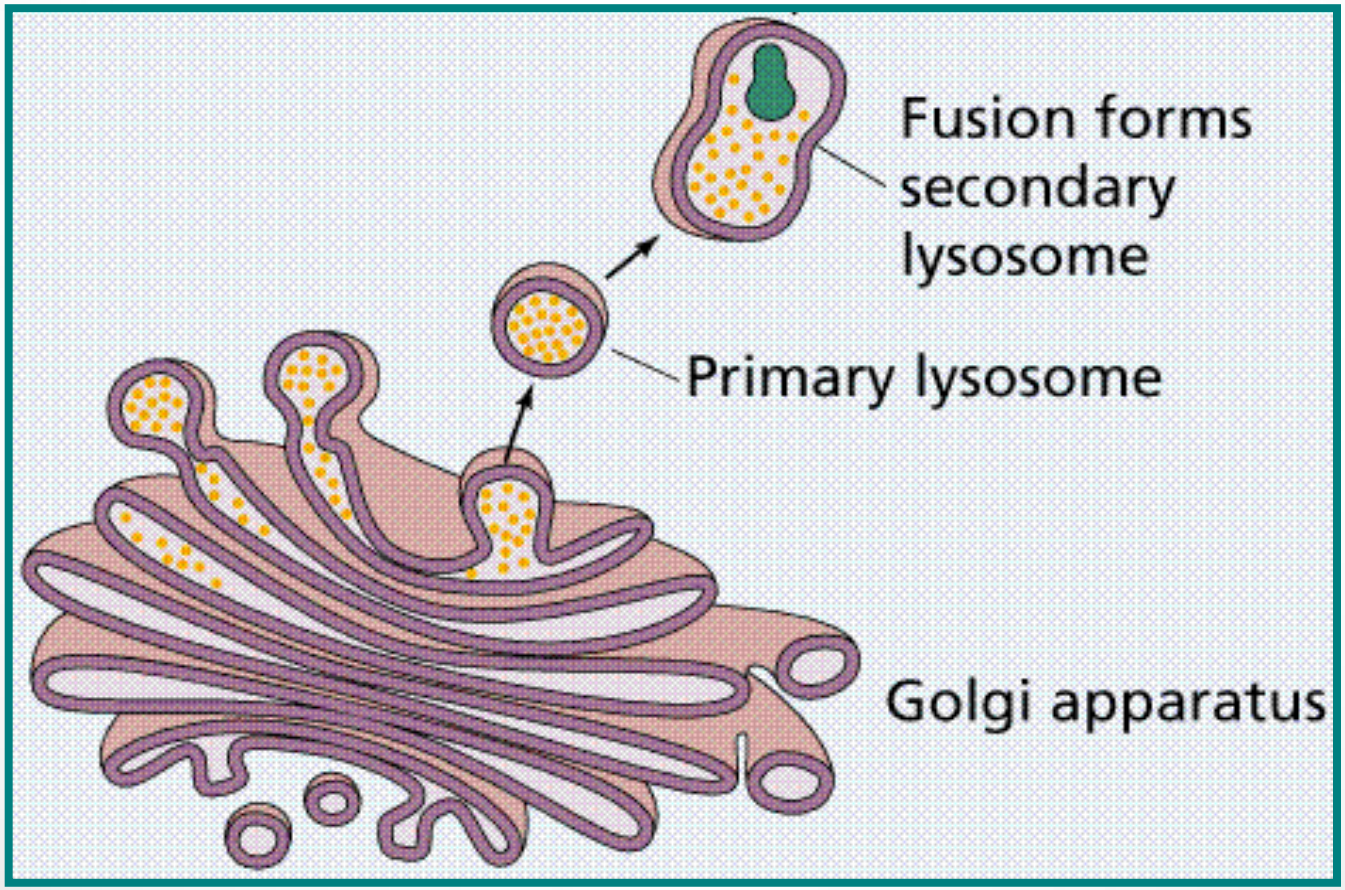
Membraansete lamellide süsteem:
1) Ainete töötlemine ja sorteerimine,
2) Valkude lõplik töötlemine ja pakendamine,
3) Rakumembraani tootmine,
4) Lüsosoomide tootmine





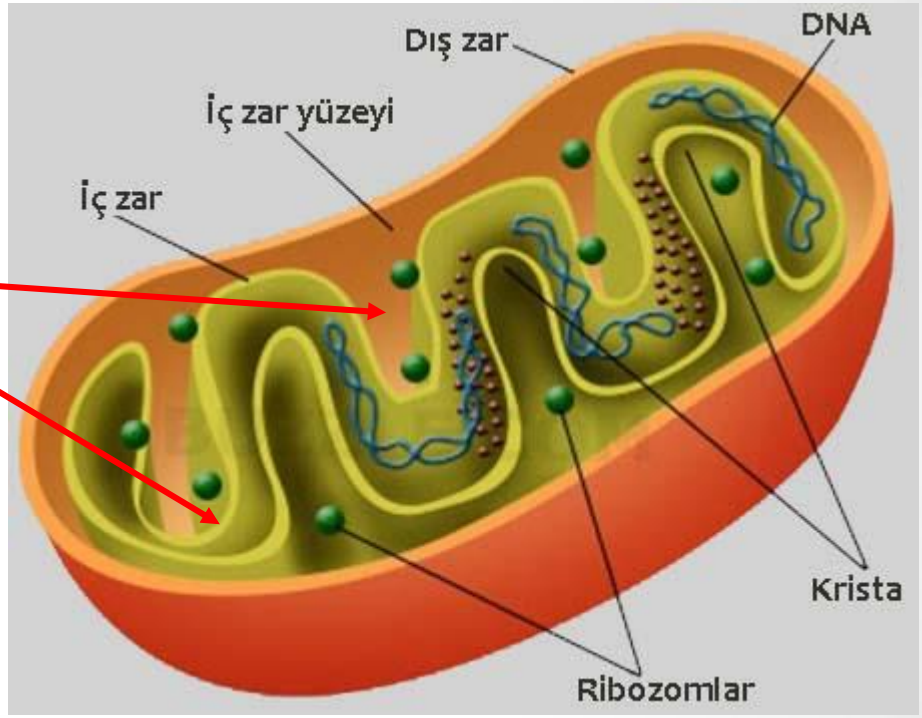
Lüsosoomid

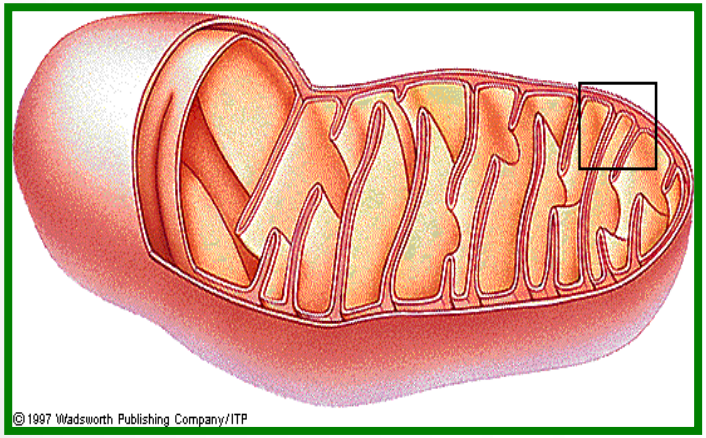
Ühekordse membraaniga
Ülesanne: lagundamine



Mitokonder

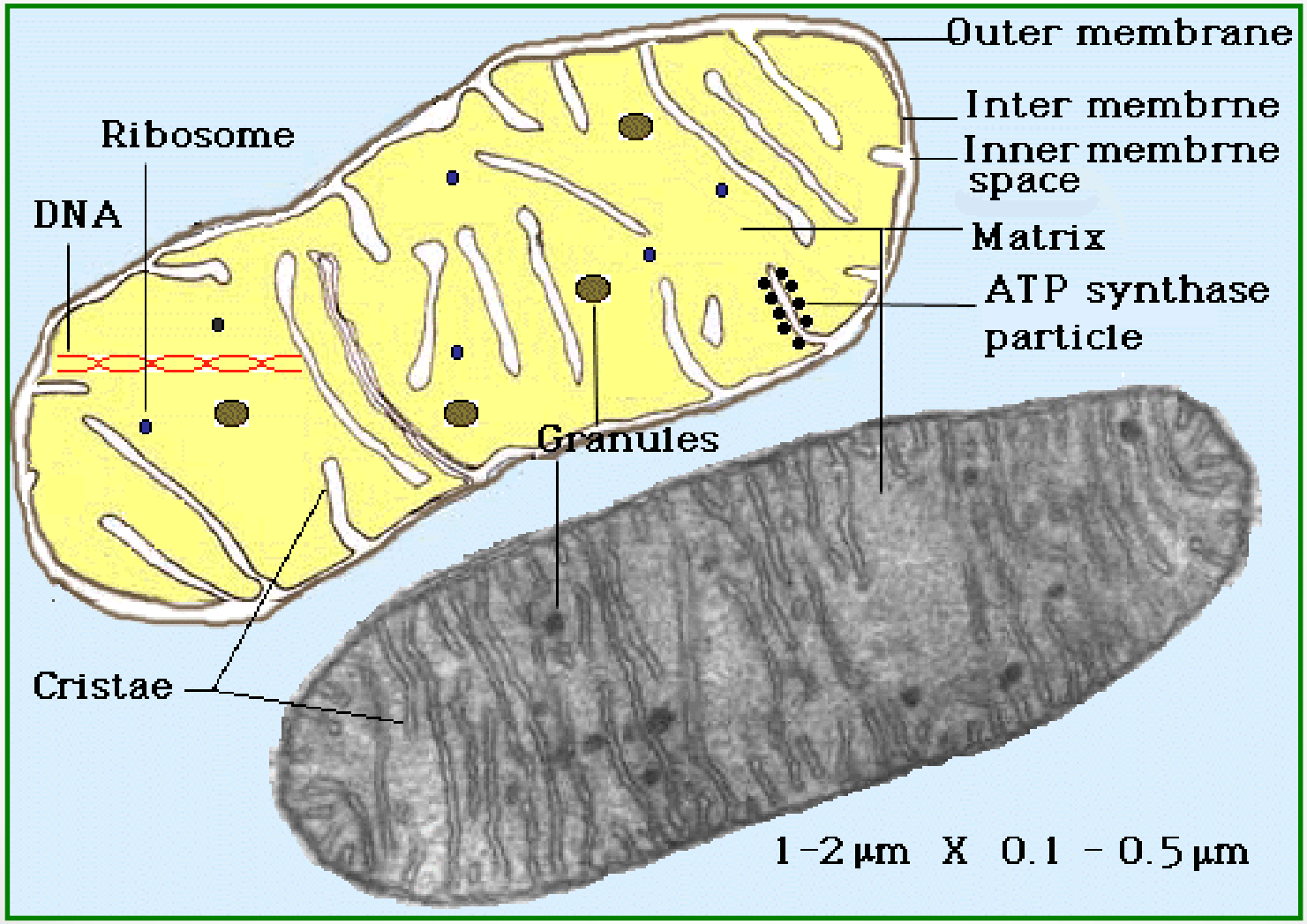
2x membraan: sisemine moodustab kristasid
Sisekeskkond: Maatriks
Oma DNA ja ribosoomid
Ülesanne: energia tootmine



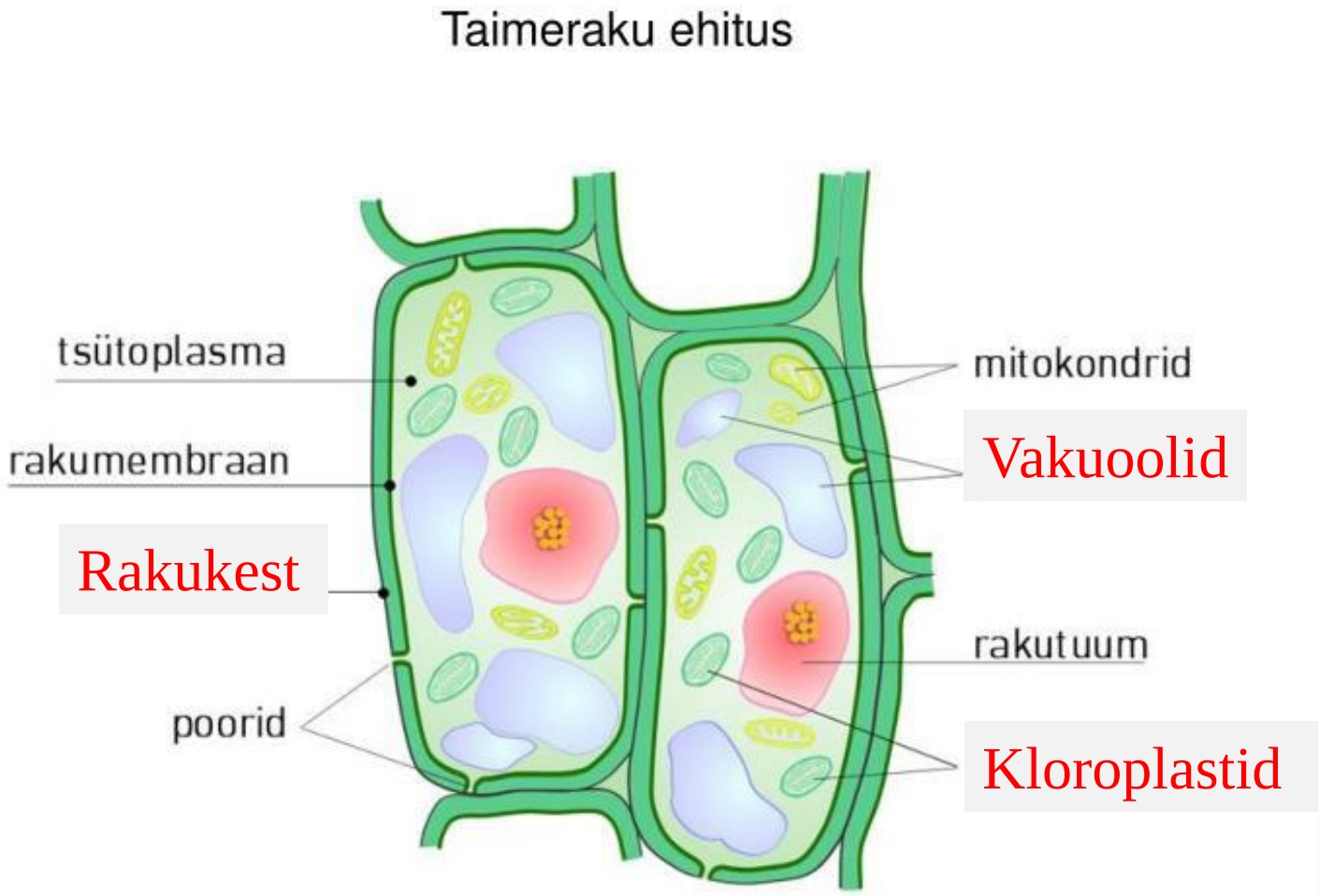


https://www.youtube.com/watch?v=umKAkEr_HLI

Mitokondri ehitus

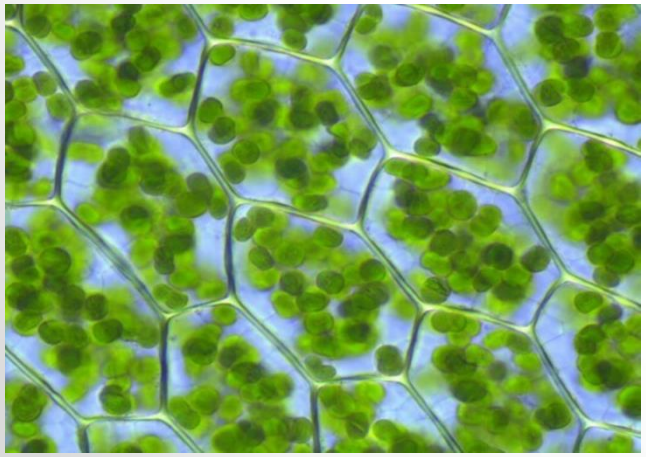


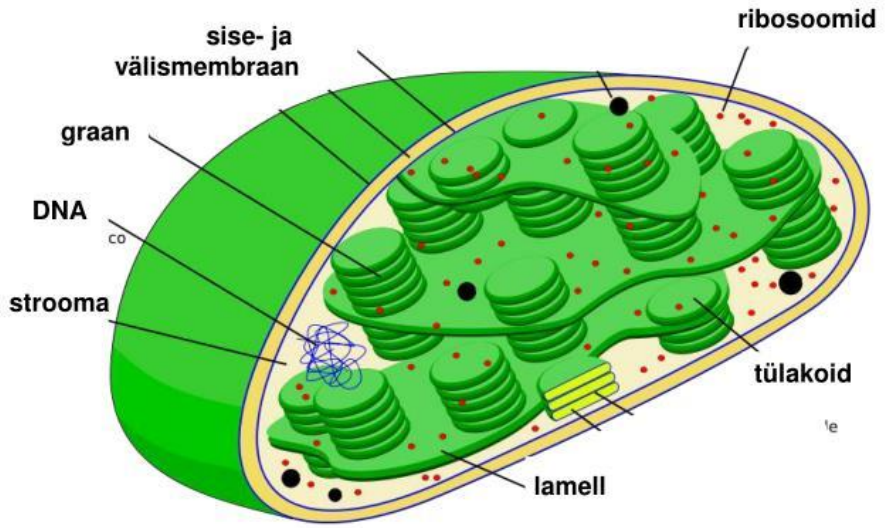
Taimerakk

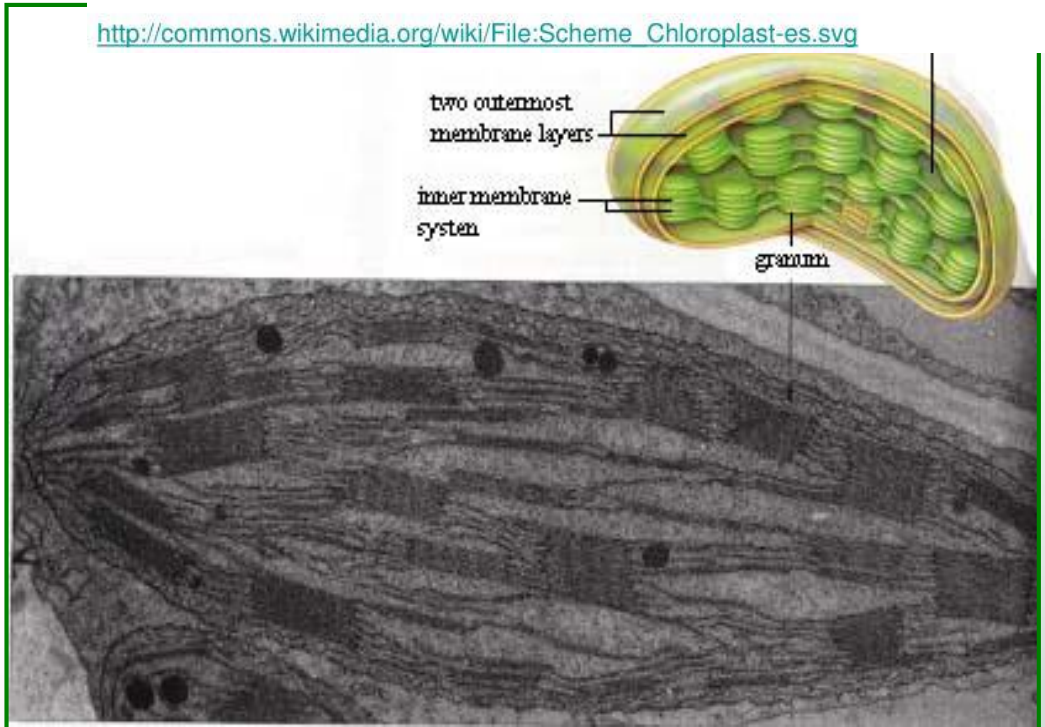

Taimeraku ehitus
tsütoplasma
rakumembraan
Rakukest
poorid
mitokondrid
Vakuoolid
rakutuum
Kloroplastid

Kloroplast

2x- membraaniga:
Sisemine moodustab
lamelle e tülakoide
need omakorda Graane
Sisekeskkond: Strooma
Oma DNA ja ribosoomid
Ülesanne: fotosüntees

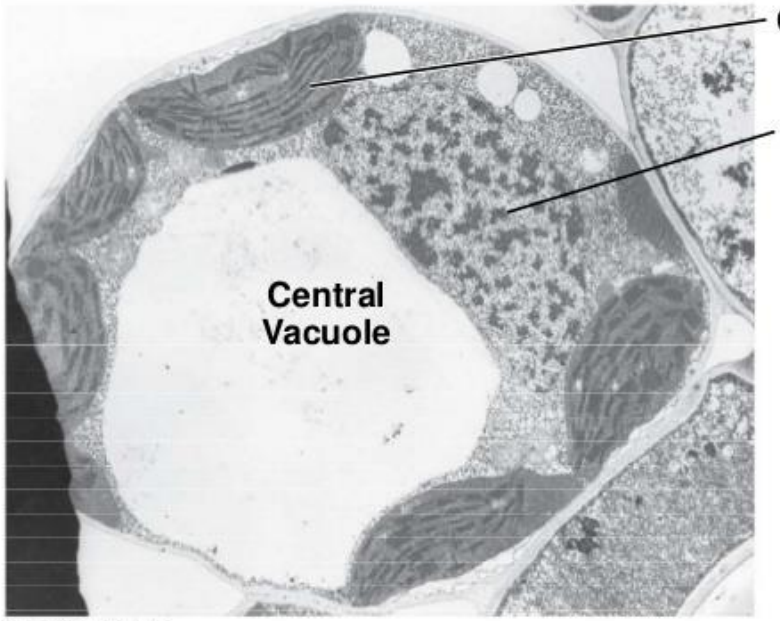






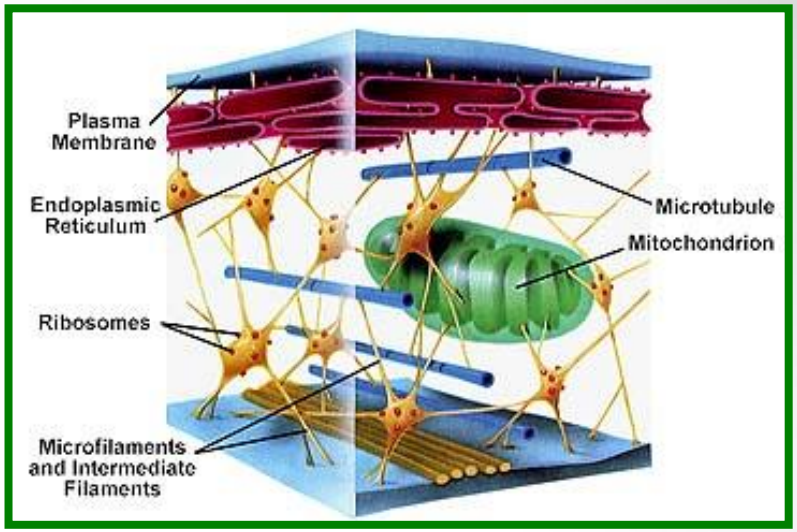
Vakuool

Membraaniga ümbritsetud
Sisaldab vett ja selles lahustunud aineid (rakumahl)
Rakurõhu tagamine

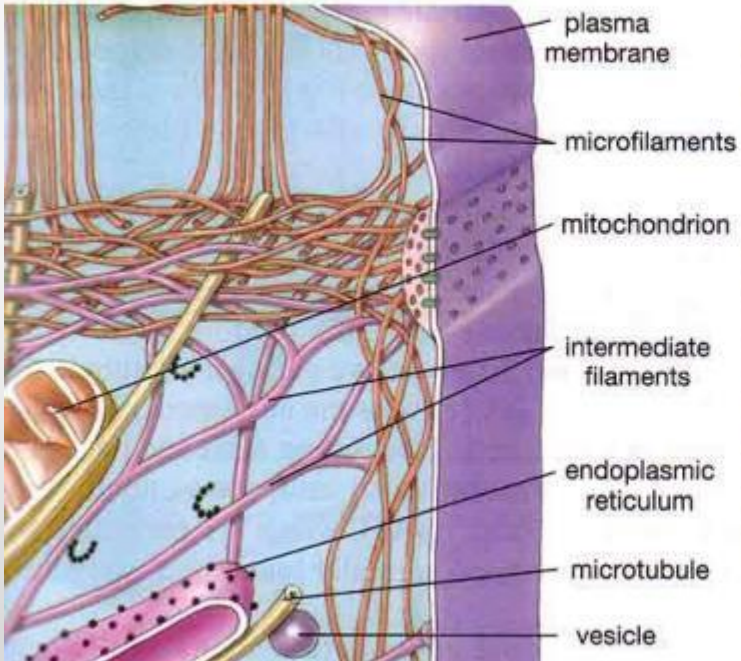


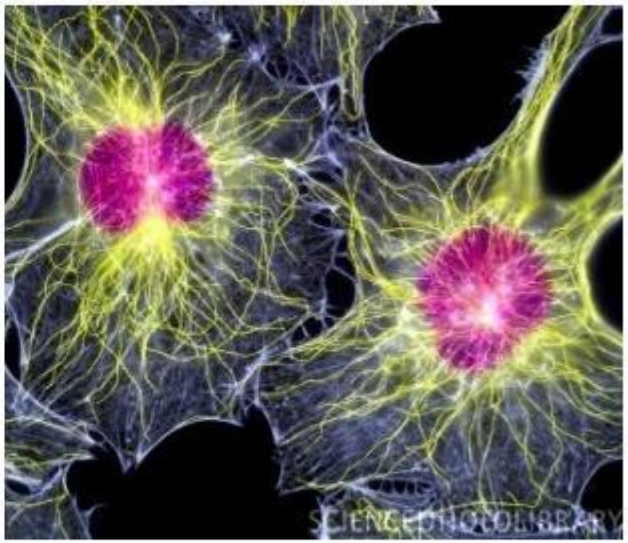
Central vacuole in a plant cell

Tsütoskelett



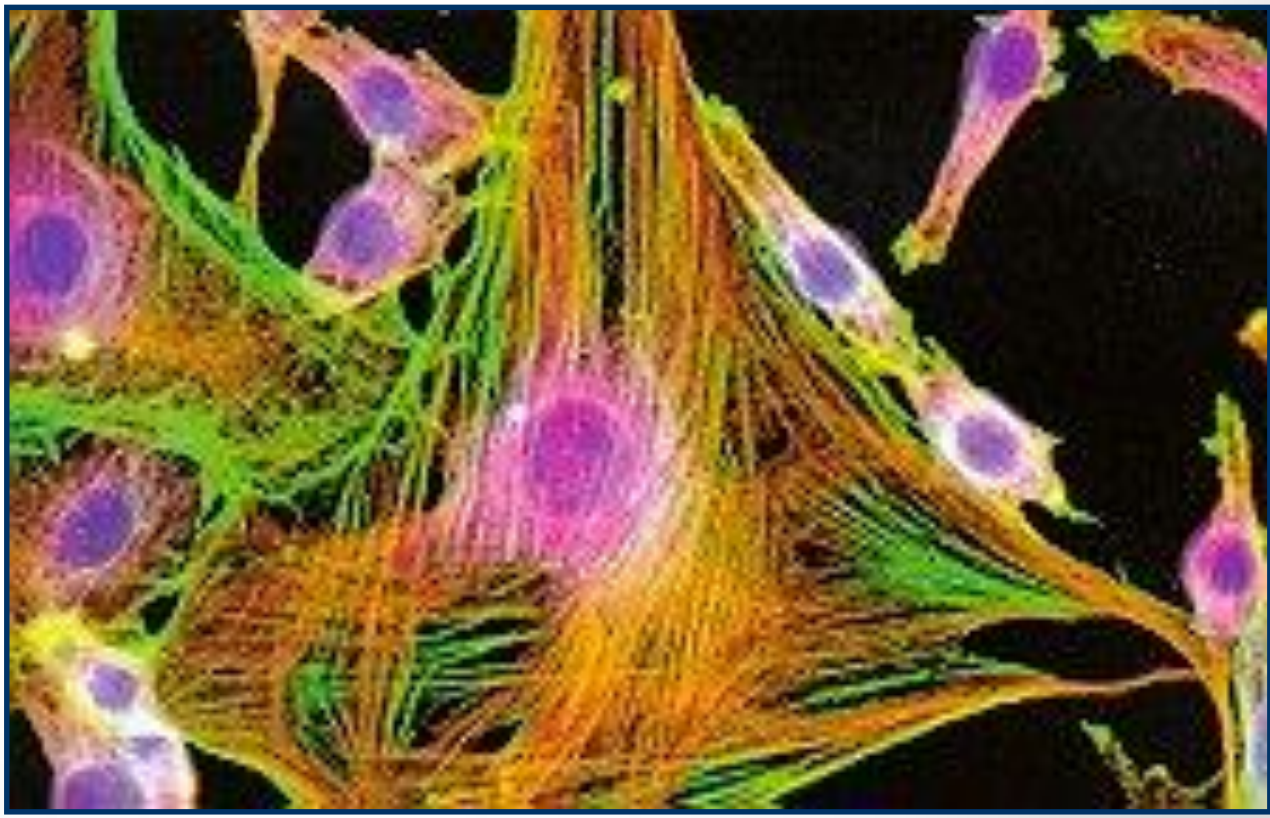
TSÜTOSKELETT toestab rakku , liigutab rakku ja tema organelle.



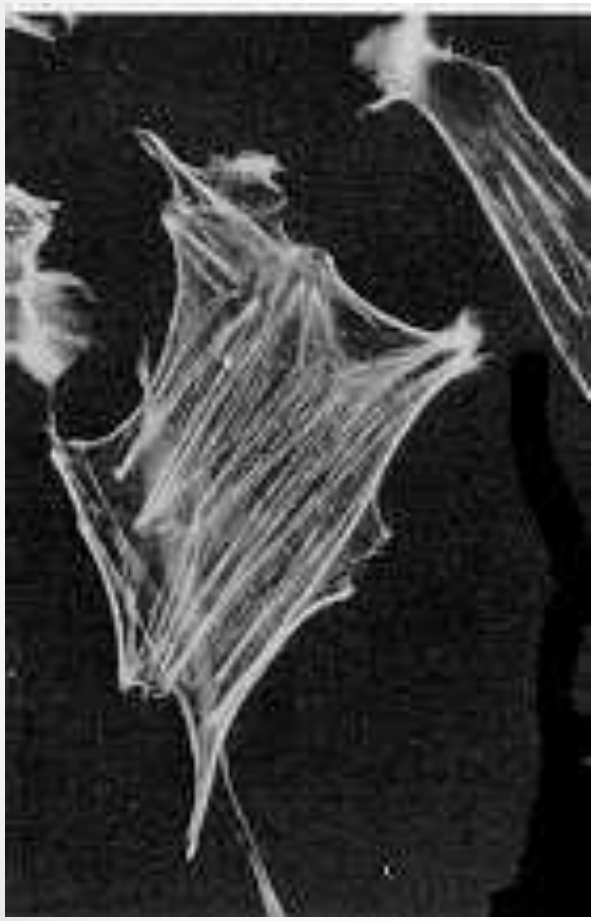


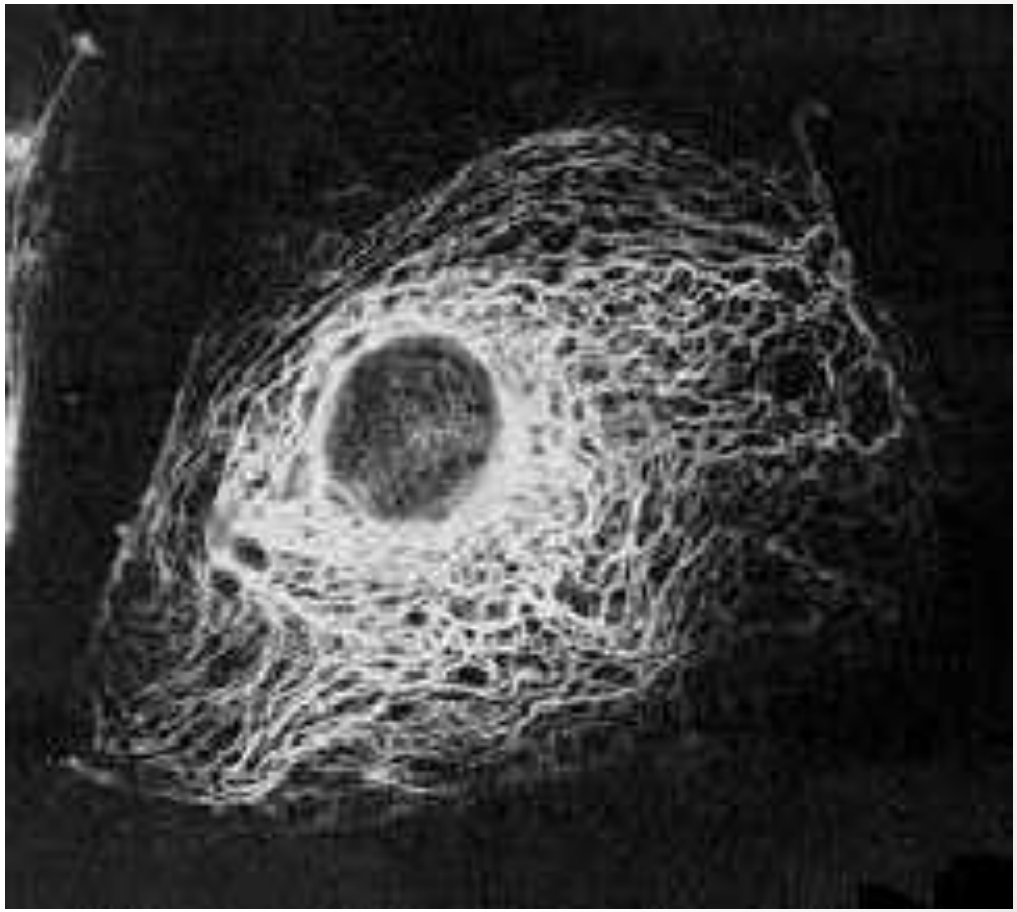
Tsütoskelett

Koosneb fibrillaarsetest
valkudest, membraan puudub.

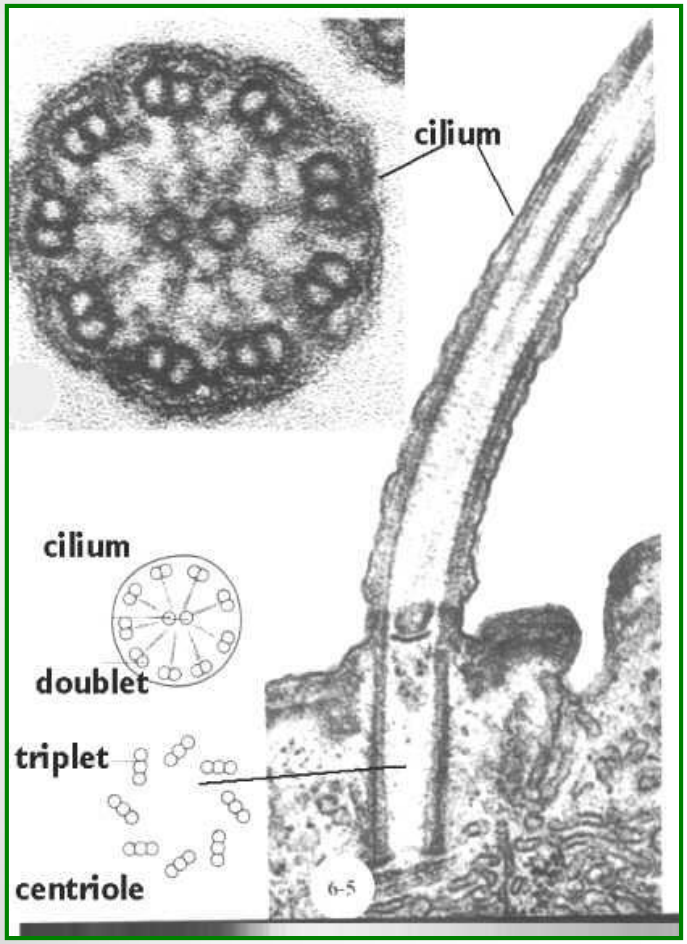


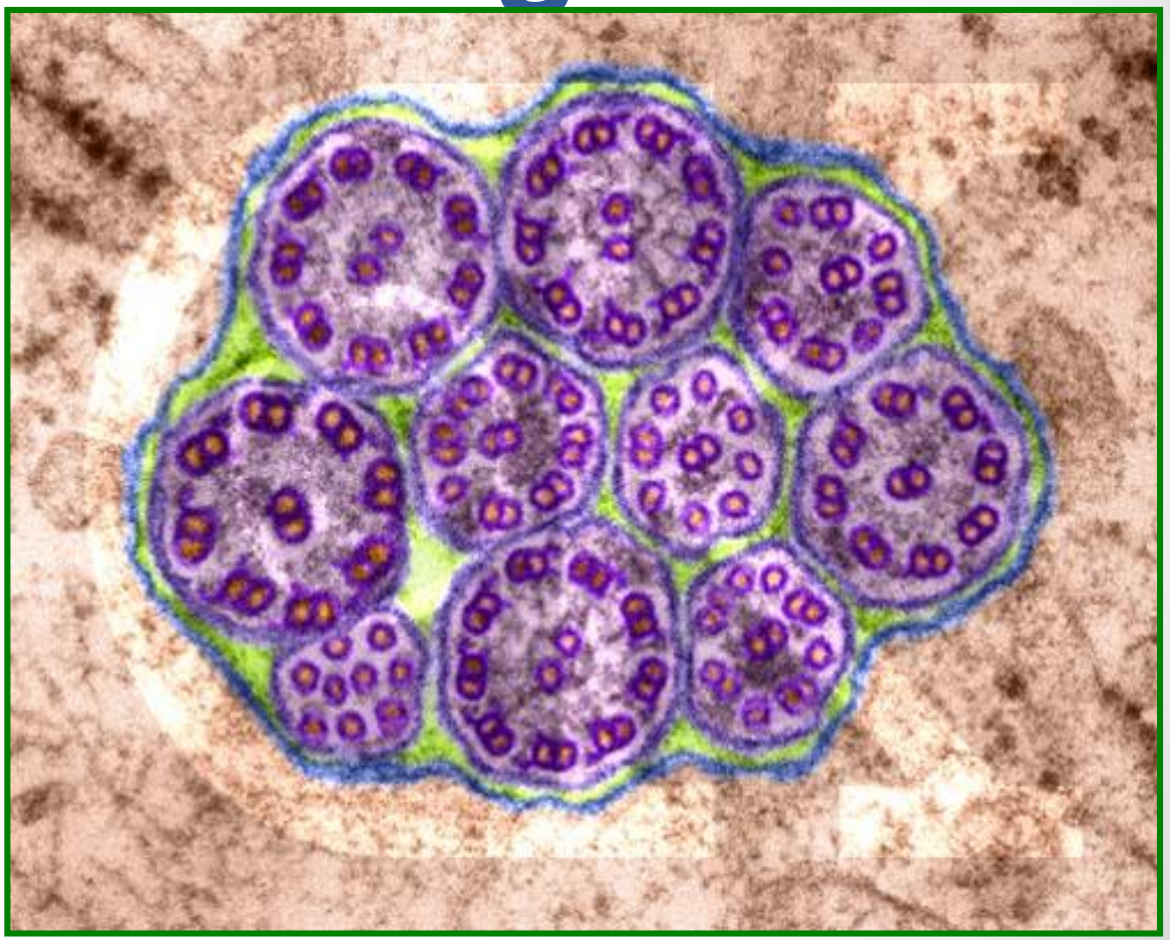
Mikrofilamendid





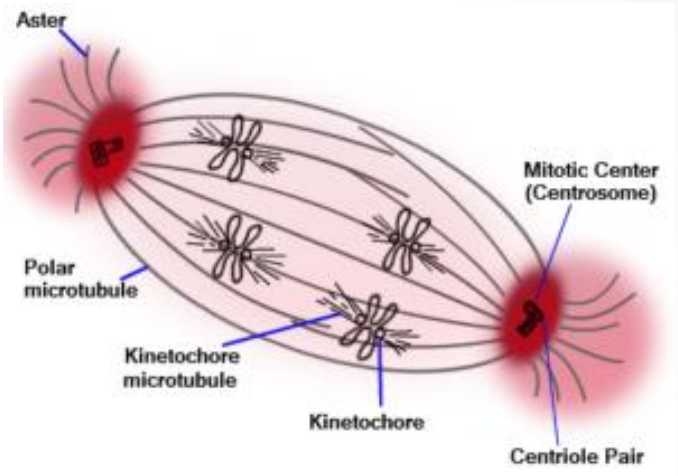
Viburi ristlõige

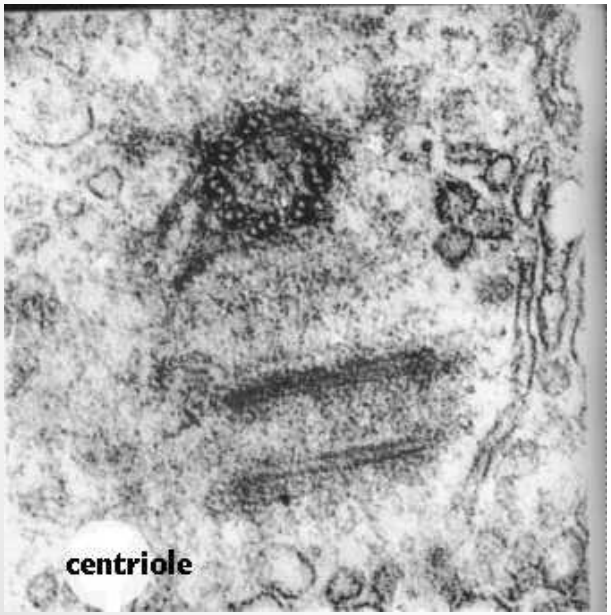


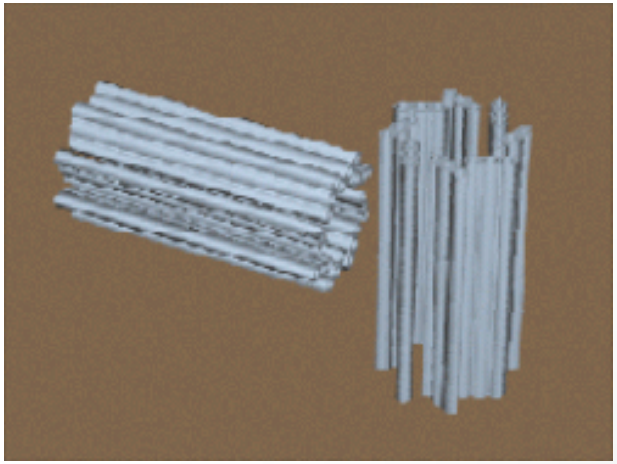


Tsentrosoom

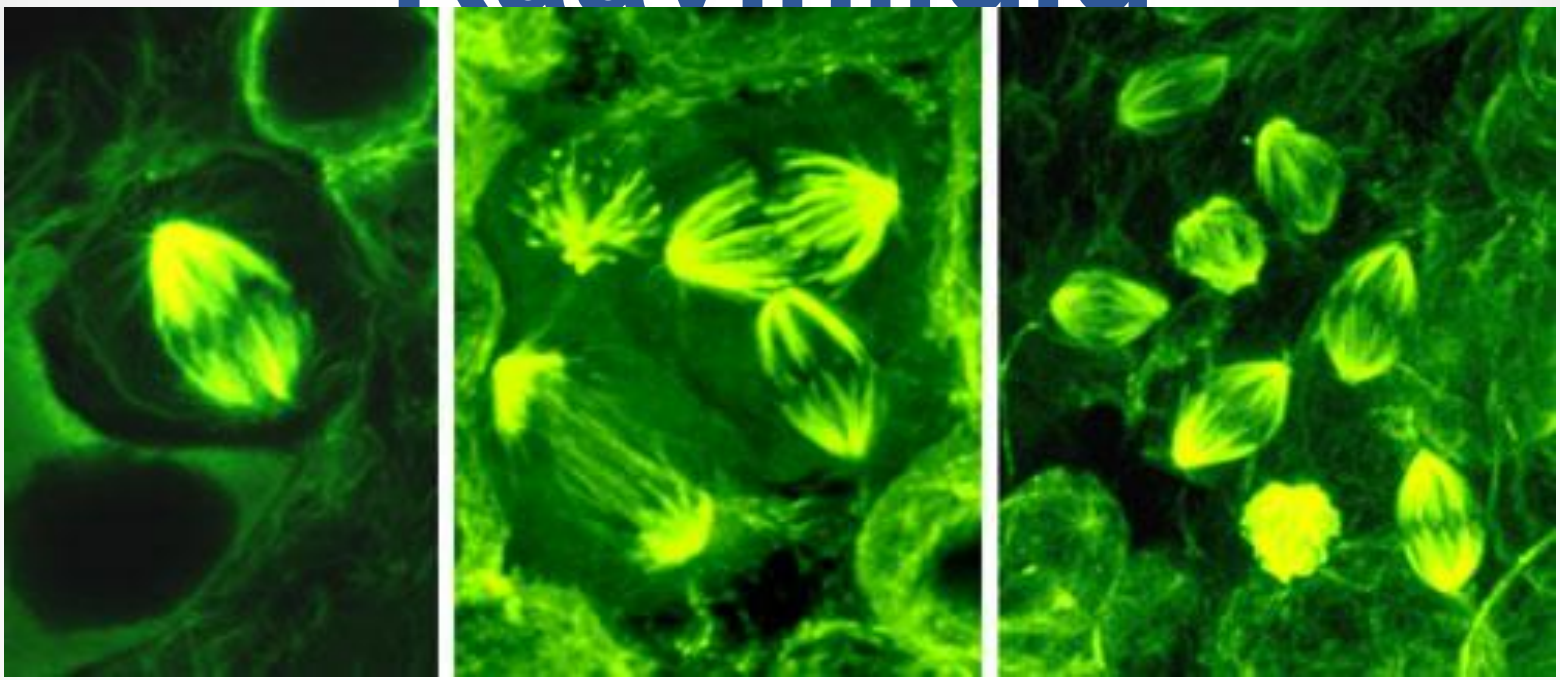
2 tsentriooli
Ülesanne: kääviniitide moodustamine rakujagunemisel

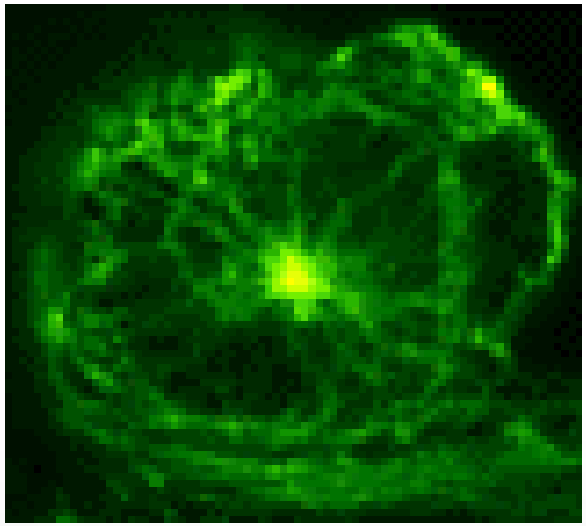






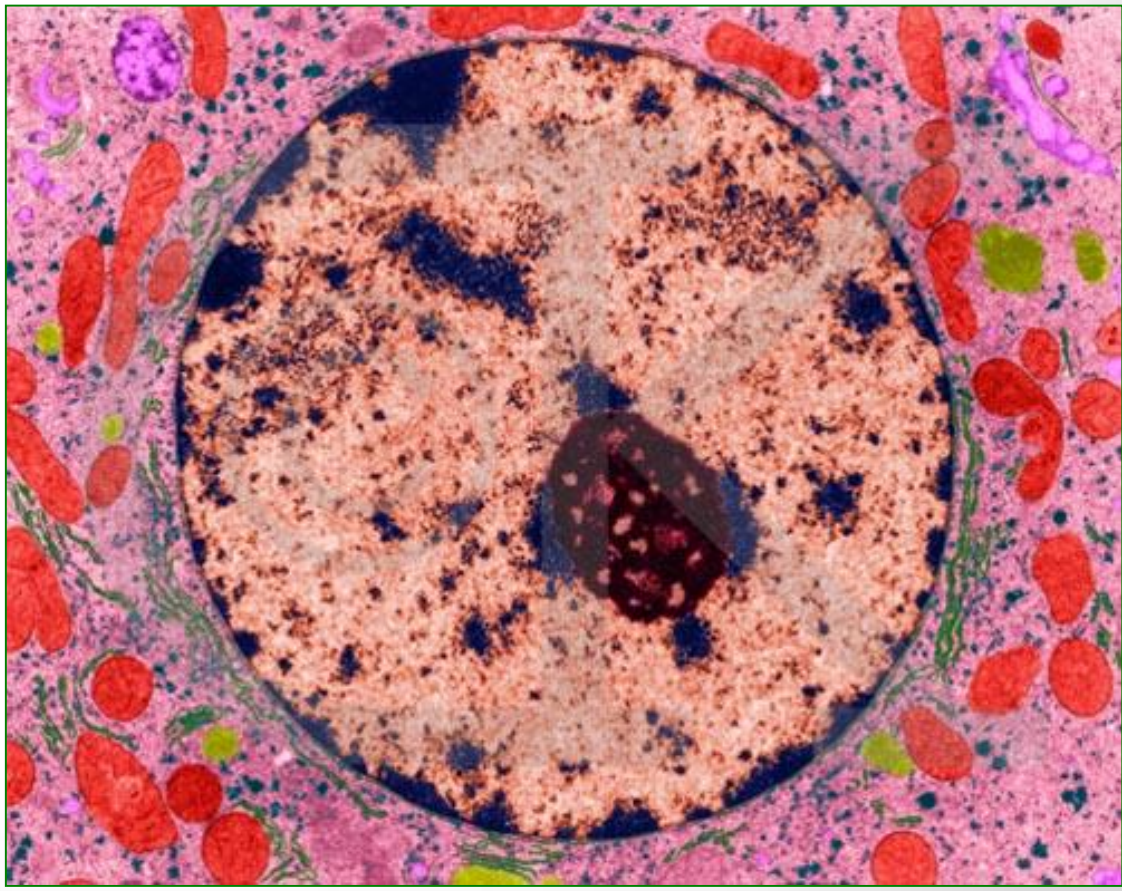
Käävinjidid



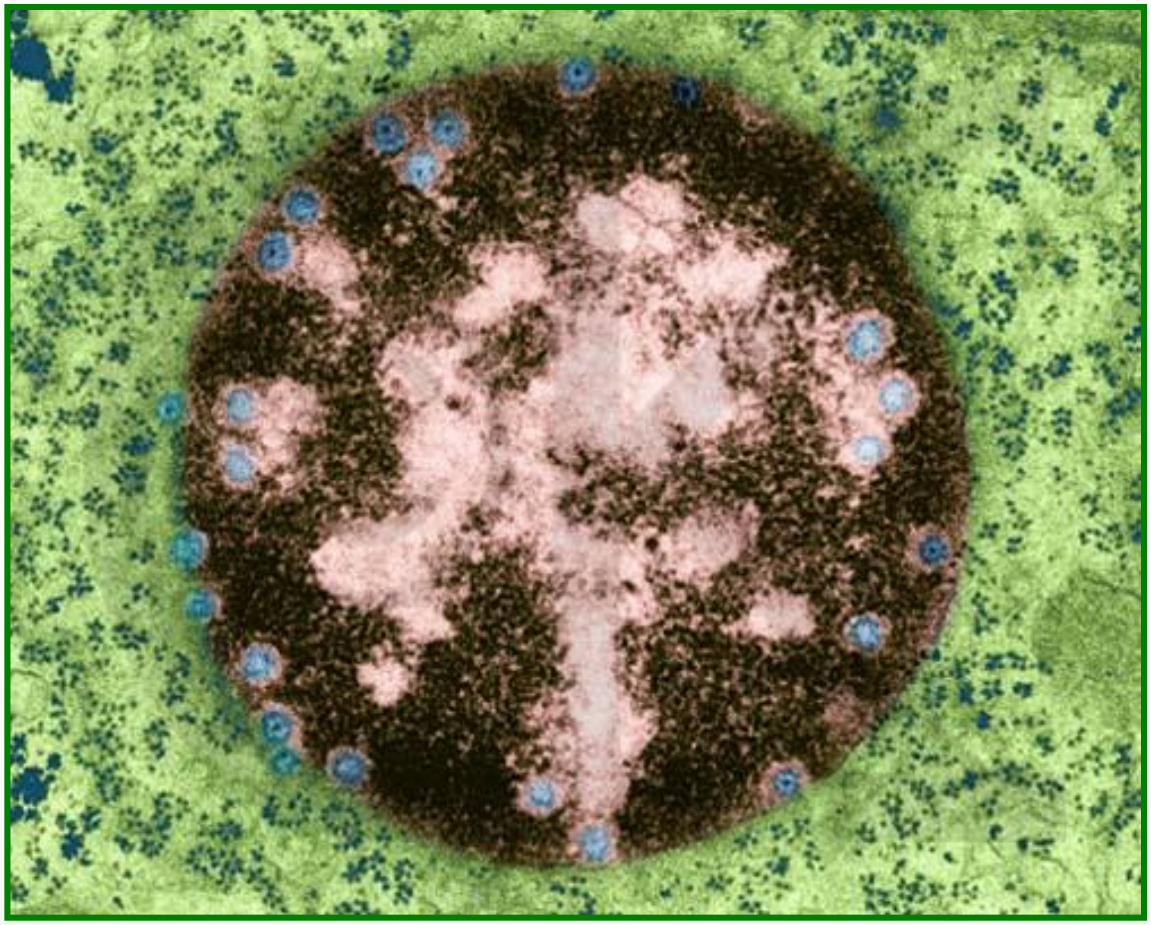


Raku tuum ja tuumake

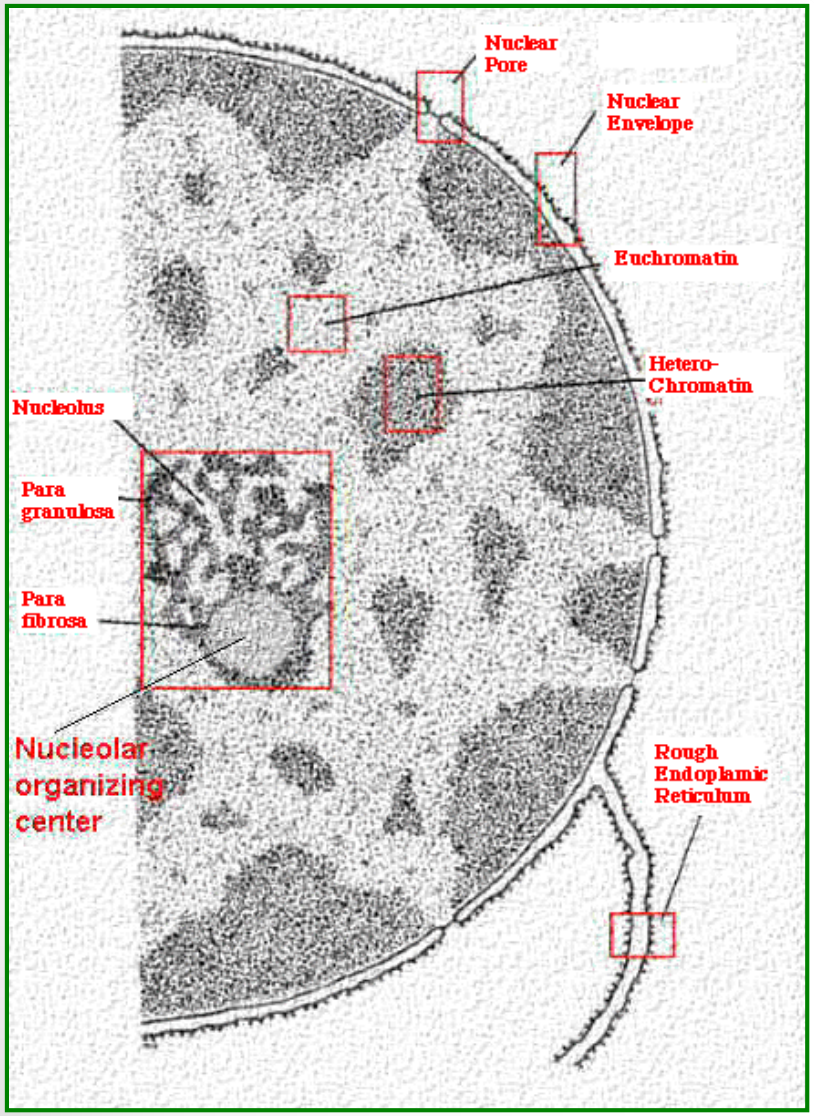
Eristatav interfaasis:
2x membraan pooridega
Sisekeskkond: karüoplasma,
Kromatiinaine, tuumake

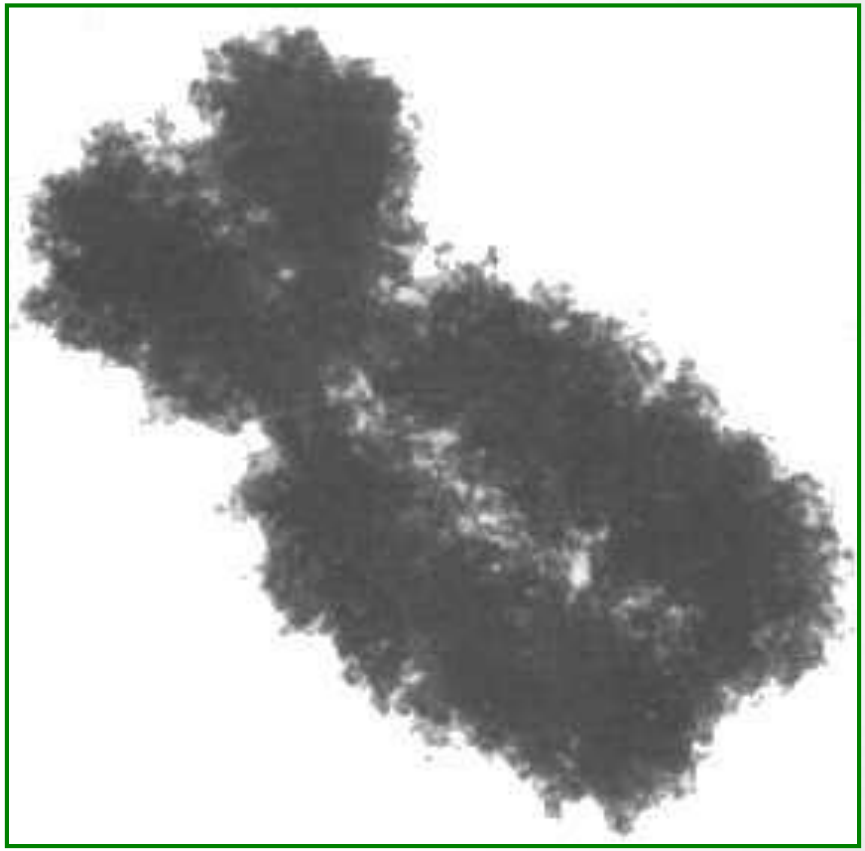


Tuumaümbrise poorid

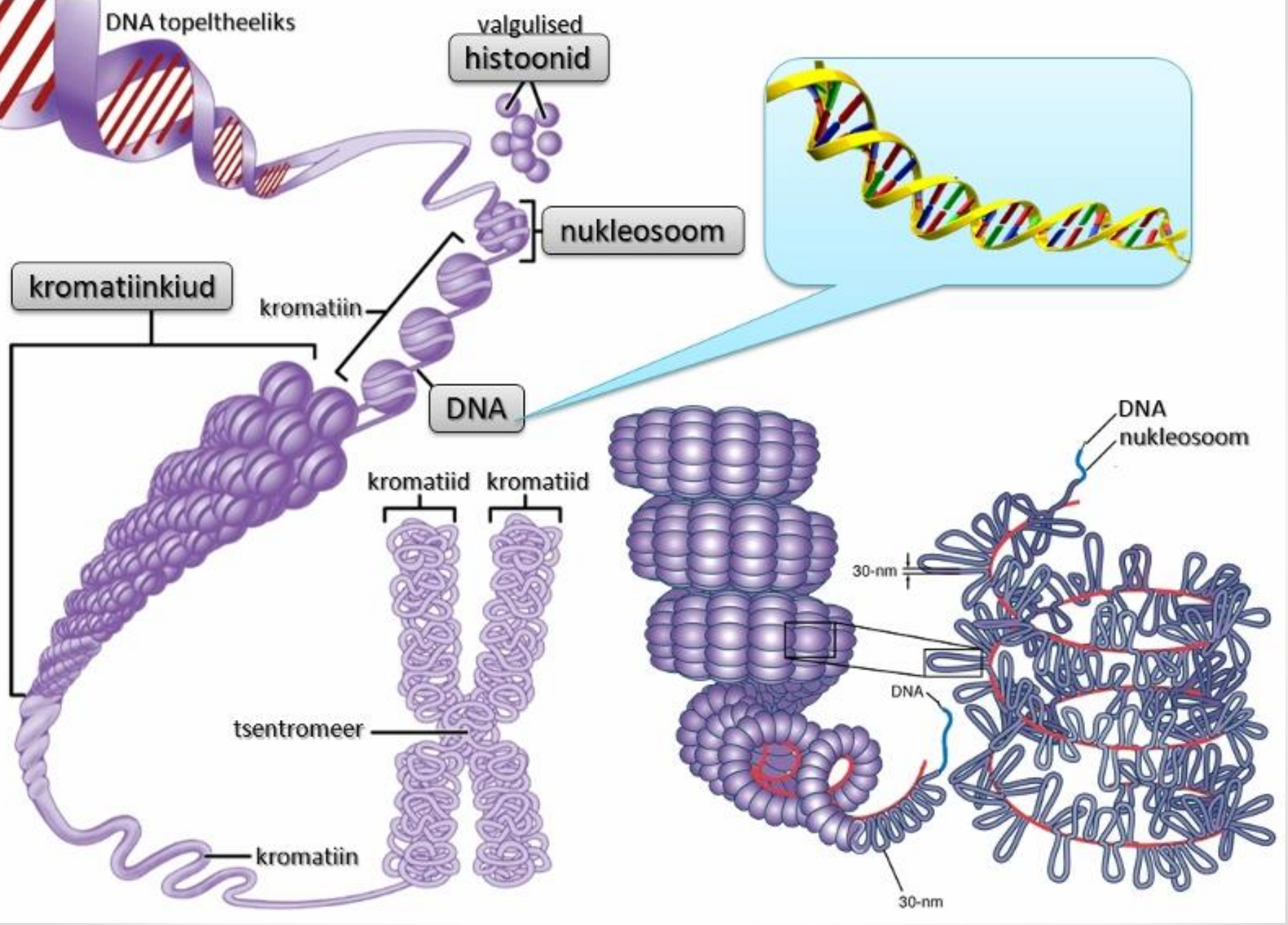


Rakutuum





kromosoom


DNA topeltheeliks
valgulised
histoonid
nukleosoom
kromatiinkiud
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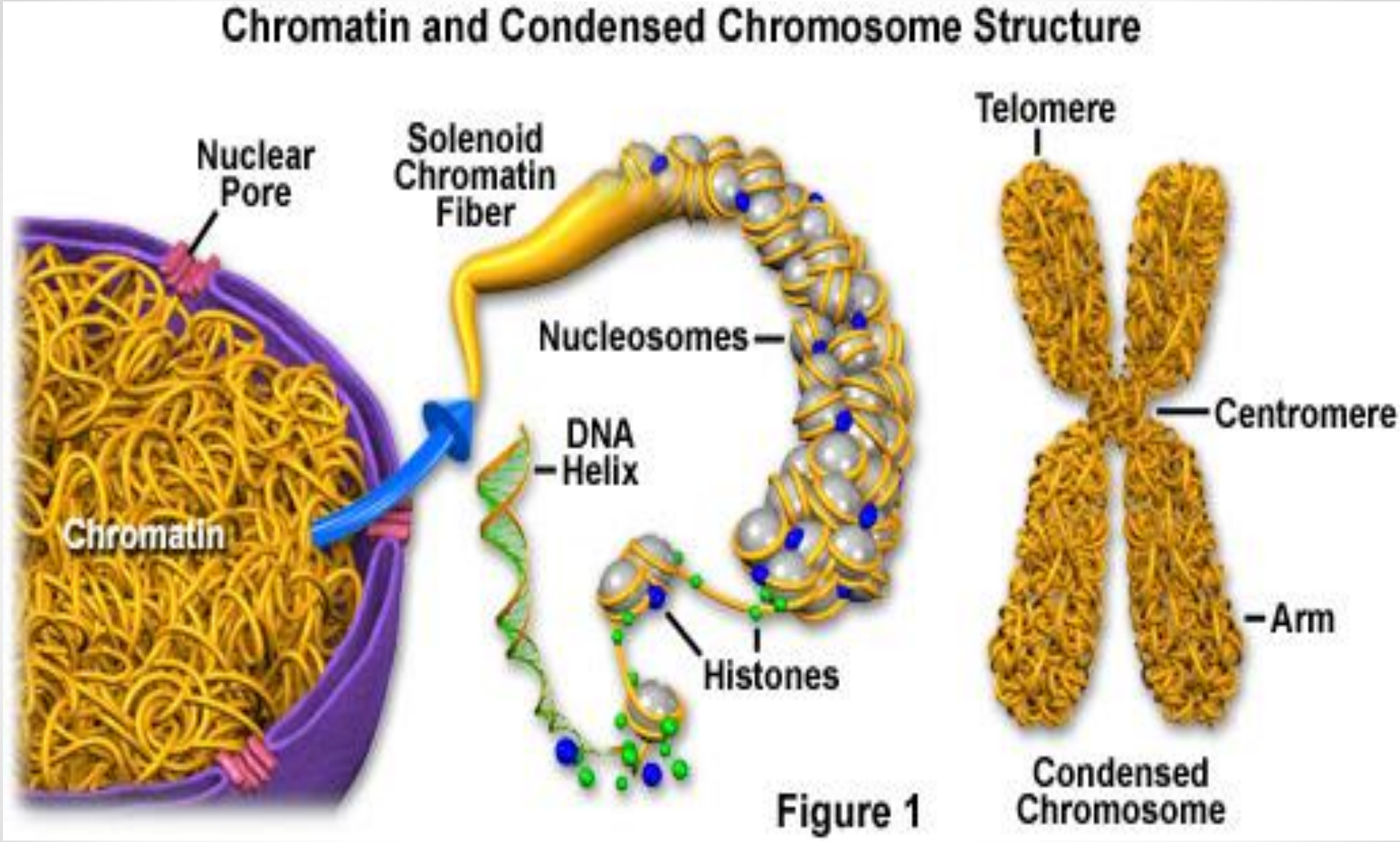
kromatiid
kromatiid
tsentromeer
kromatiin
DNA
nukleosoom
30-nm
DNA
30-nm



https://www.youtube.com/watch?v=OjPcT1uUZiE

Homoloogilised kromosoomid

…ehk paarilised kromosoomid sisaldavad samu tunnuseid määravaid geene.

Igal liigil on kindel arv kromosoome.

- Autosoomid
- Sugukromosoomid

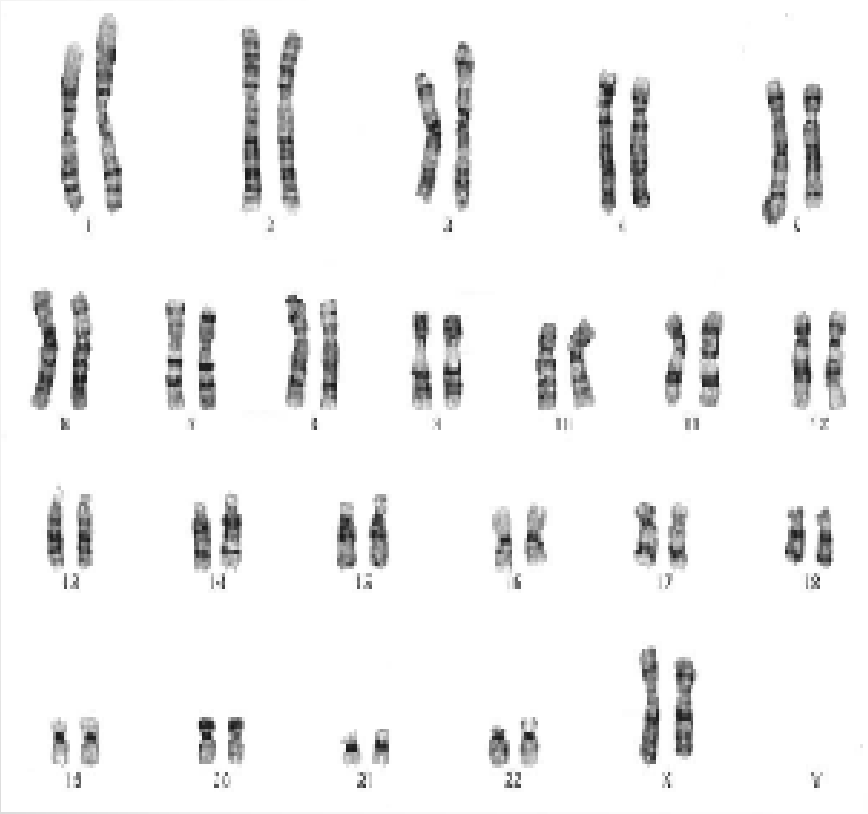
Inimesel on sugu tunnuseid määravad kromosoomid X ja Y.

Mehel on …

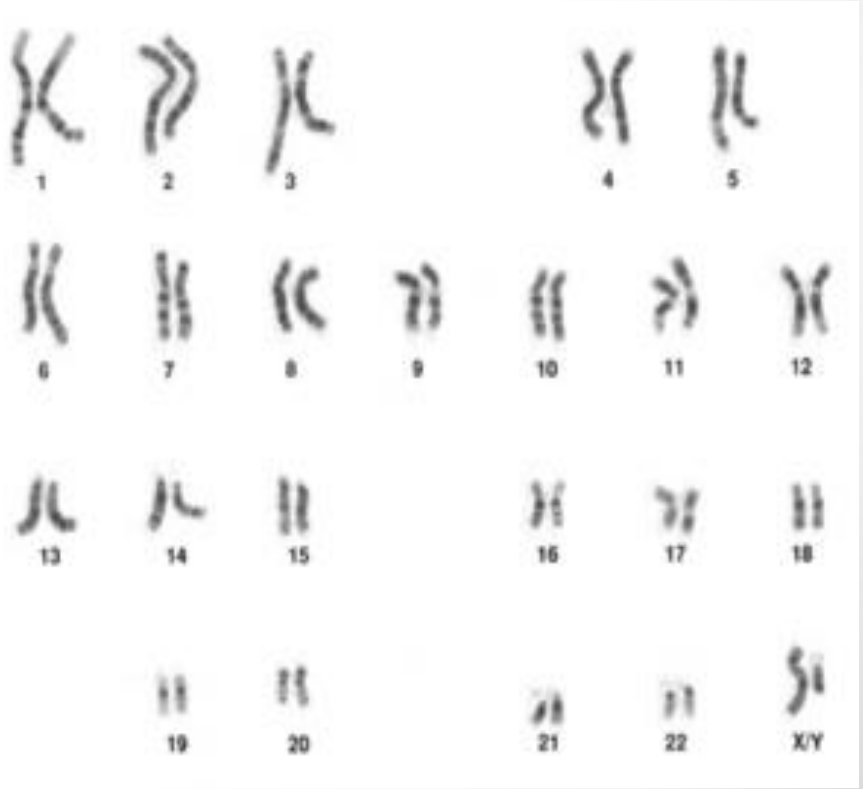
Naisel on …

Karüogramm

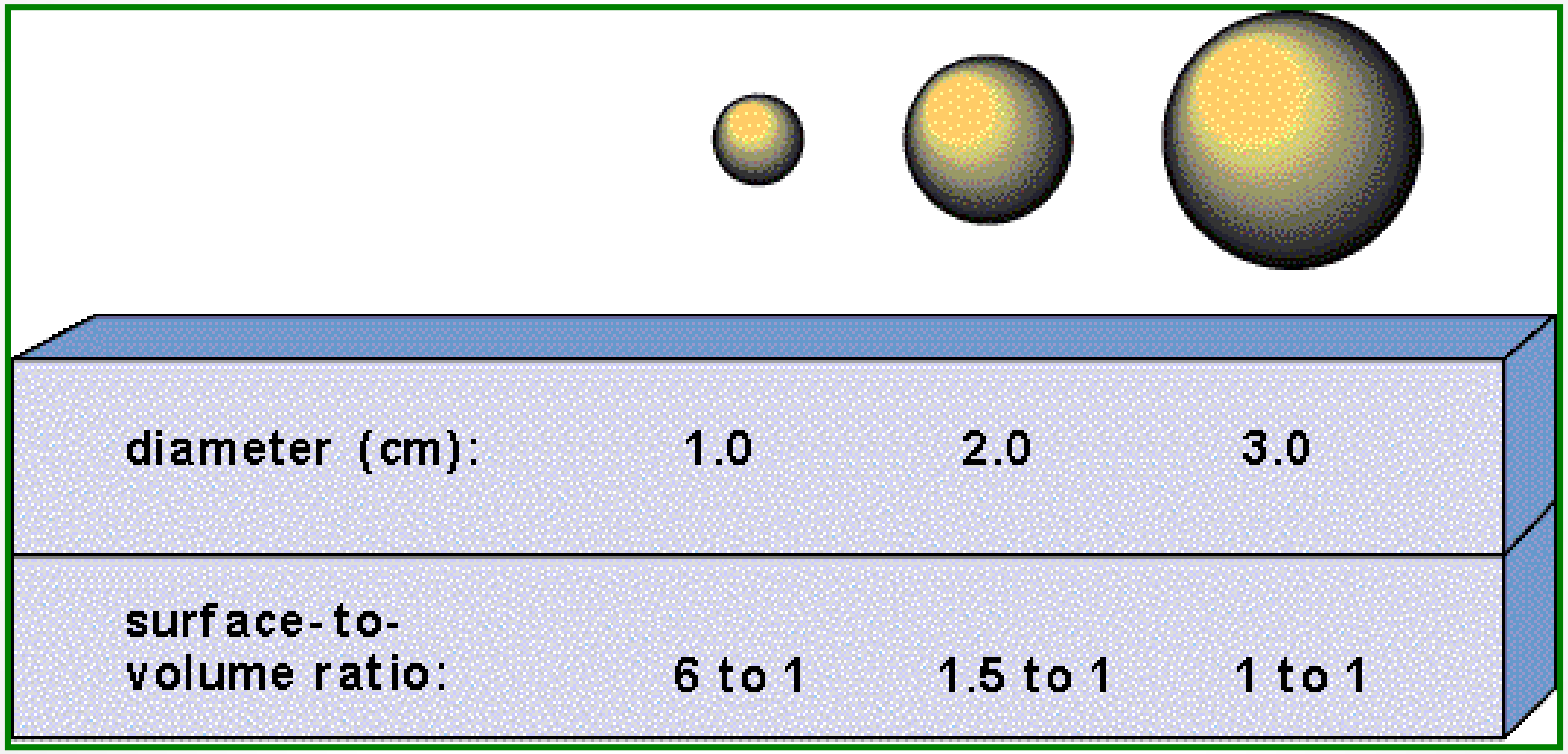
Naine



Mees



Raku suurus



https://www.youtube.com/watch?v=g4L_QO4WKtM

Kasutatud kirjandus (Ülle Irdt)

- https://www.youtube.com/watch?v=OjPcT1uUZiE
- https://www.youtube.com/watch?v=PASnAaulK-Y
- https://www.youtube.com/watch?v=g4L_QO4WKtM
- https://www.youtube.com/watch?v=URUJD5NEXC8&t=240s
- https://www.youtube.com/watch?v=umKAkEr_HLI
- https://www.taskutark.ee/m/wp-content/uploads/sites/2/2014/07/61-800x568.jpg
- https://sciencevogel.wikispaces.com/file/view/CellStructure.jpg/488897306/608x467/CellStructure.jpg
- https://www.unmedicopertutti.it/membrana.jpg
- https://cdn.thinglink.me/api/image/637710996995047424/1240/10/scaletowidth
- https://image.slidesharecdn.com/lipiidid-140918012530-phpapp02/95/lipiidid-10-638.jpg?cb=1411003578
- https://1.bp.blogspot.com/-GiEAQo8D0cc/WgcSJmbNXOI/AAAAAAAAELE/x7GdyraJx-I_pAFRKJQQiD5wy6jVe_jFACLcBGAs/s1600/Struktur%2BBadan%2BGolgi.jpg
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Tänan tähelepanu eest!