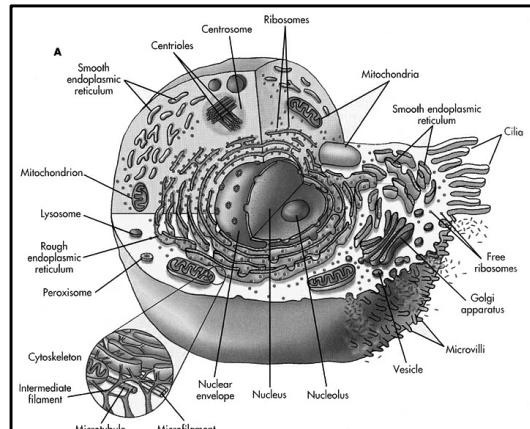


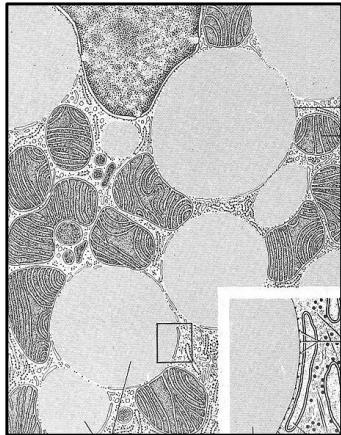
### Celinsluitsels



### Cytoplasma-insluitsels

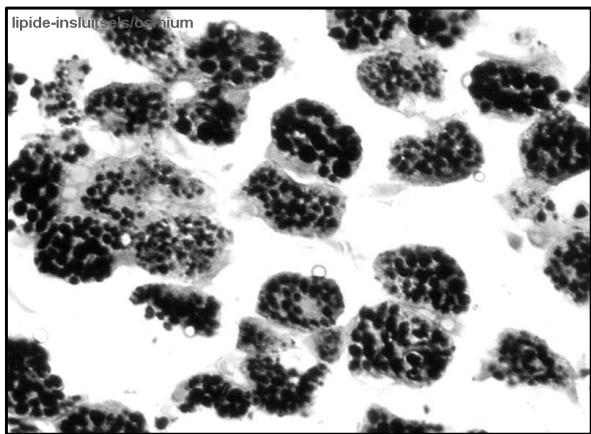
- lipiden
- koolhydraten
- proteïnen
- pigmenten

Lipideninsluitsels

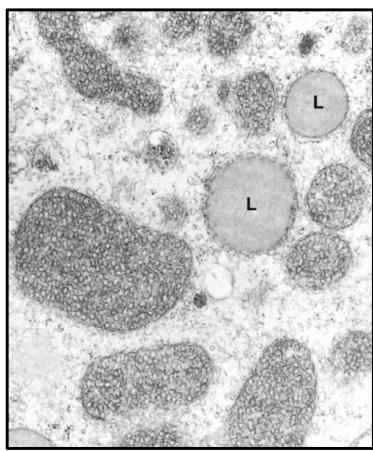
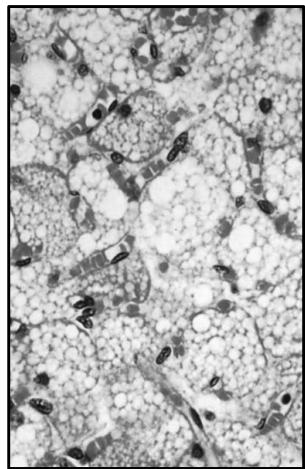


Cytologie-insluitsels

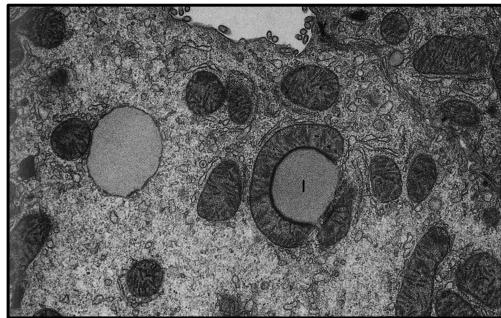
lipide-insluitcellen



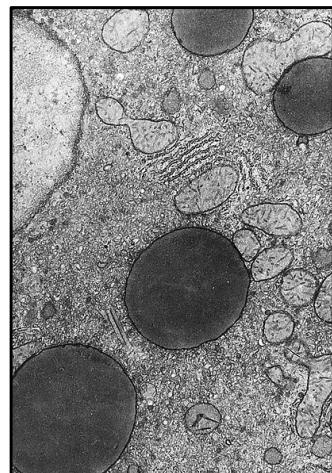
Cytologie-insluitsels

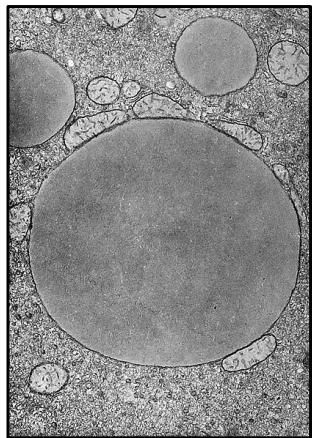
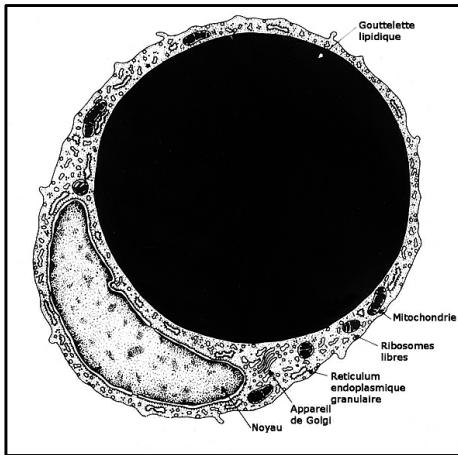


Triacylglycerolen: opslagvorm van vetzuren als niet-membraangebonden druppel



Eens vrijgezet uit druppel – associatie met CoA (in buitenste mitochond. membraan) – dan transport naar mitochondriale matrix waar oxidatie tot Acetyl-CoA plaatsvindt die dan de vetzuurcyclus binnentreedt

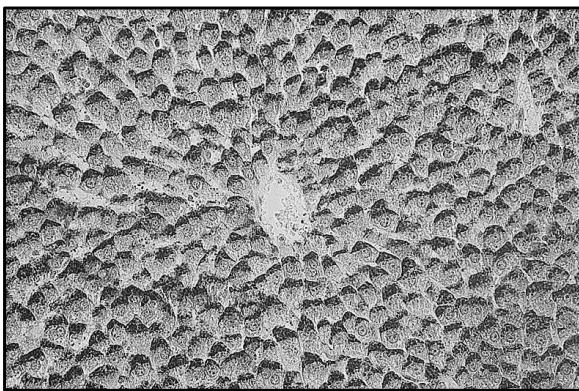




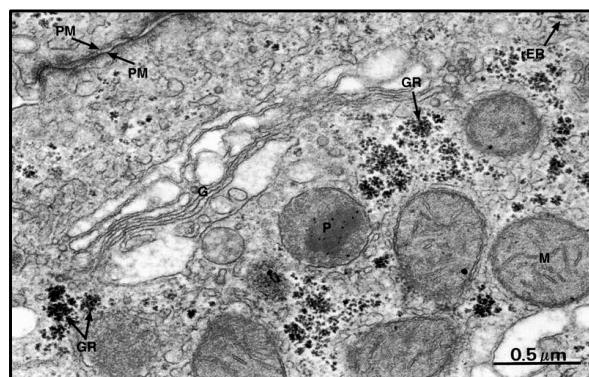
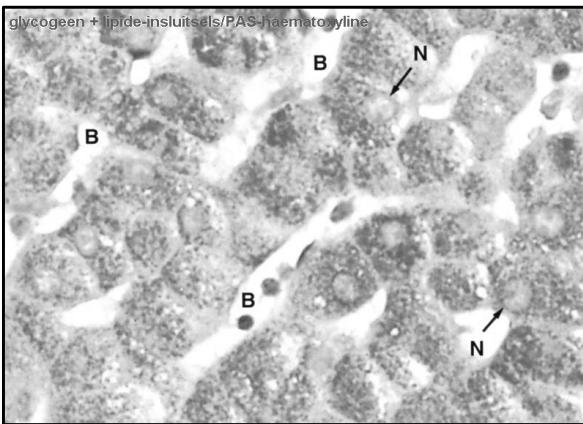
## Cytologie-insluitsels



Koolhydraten: bv. glycogeen



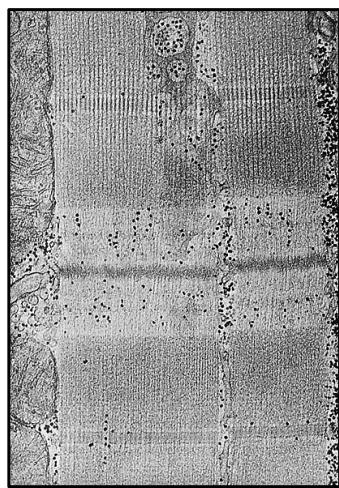
Kleuring van Best (karmijn)



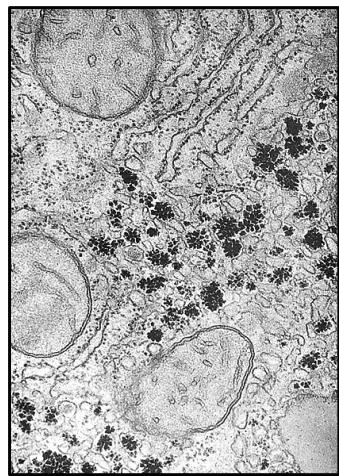
Individuele glycogenepartikels =  $\beta$ -partikels (15-30 nm in diameter)  
-e-dens met loodcitraat (ribosomen: e-dens met uranylacetaat)

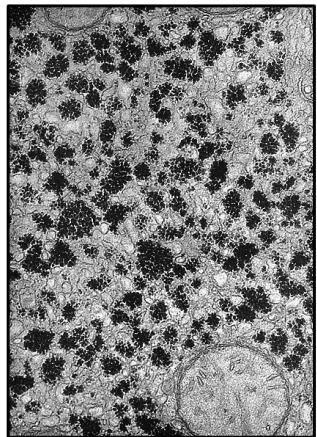
Aggregaten in rozetten =  $\alpha$ -partikels; de grotere aggregaten kunnen zelfs een membraan omgeven zin (glycozaenosenomen)

## Cytologie-insluitsels



Cytologie-insluitsels



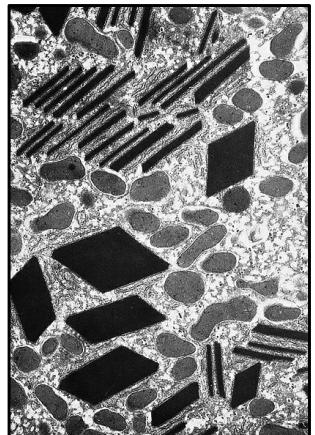
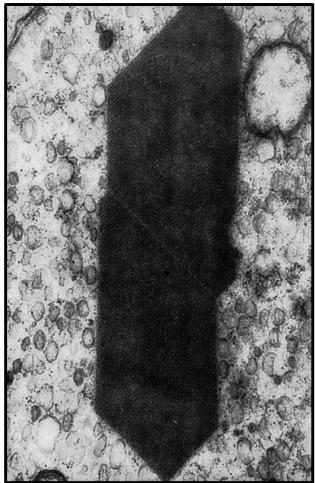


**Eiwitten**

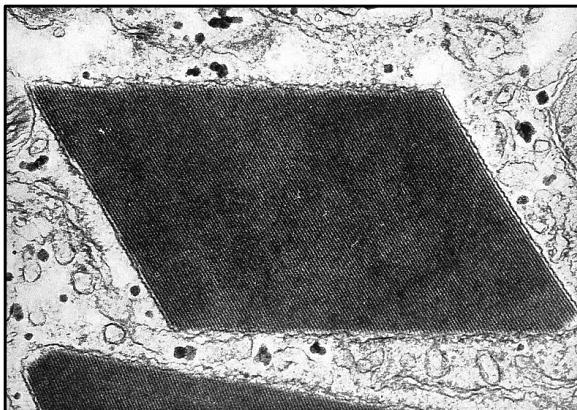
Cfr - bij primaten: kristallen van Reinke in cellen van Leydig  
- in levercellen van salamanders ook eiwitkristallen

In secreetgrana van klercellen komen eiwitten als niet-gekristalliseerde vormen voor

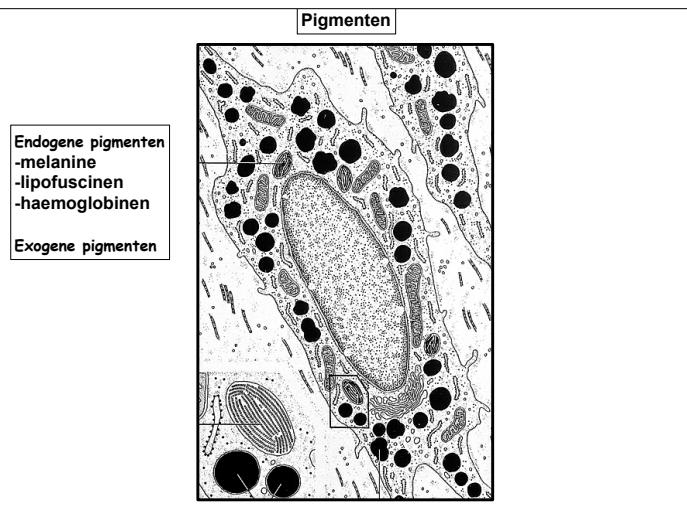
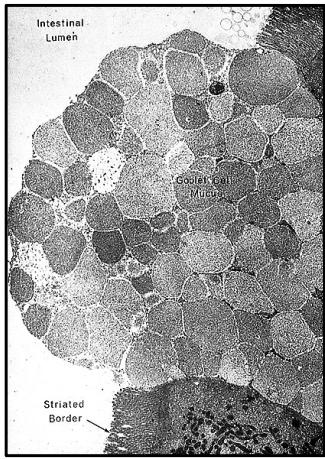
Cytologie-insluitsels



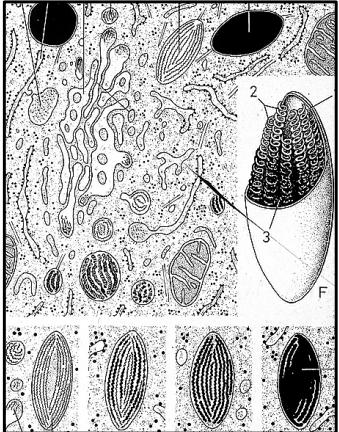
## Cytologie-insluitsels



## Cytologie-insluitsels



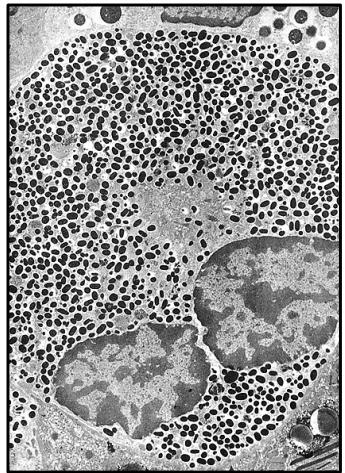
Melanosomen: type I-IV (cfr tyrosinase-activiteit)



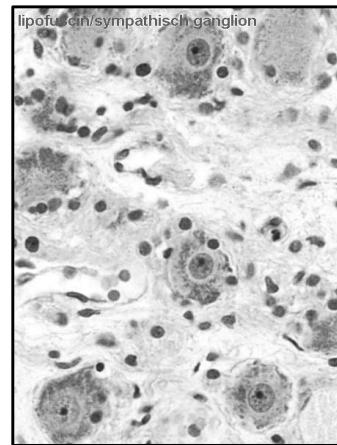
Cytologie-insluitsels

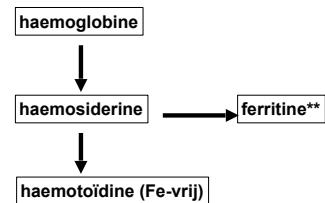
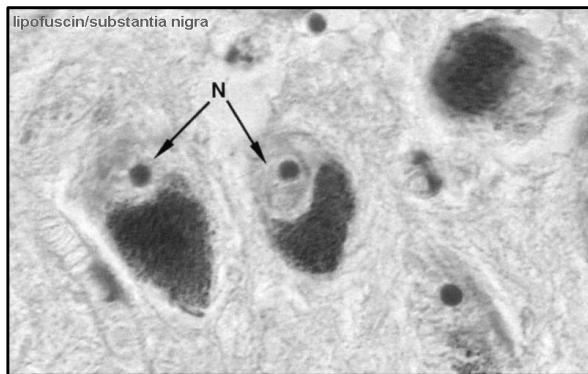


## Cytologie-insluitsels



Lipofuscine: meestal in telolysosomen  
(vooral te vinden in zenuwcellen &  
hartspiercellen)





\*\*gebonden aan transferrine is ferritine de transportvorm in bloedbaan

## Exogene pigmenten

- Anthracosis (mijnwerkers)
- Silicosis (steengroeve-arbeiders)
- Hg-verbindingen
- Carotenen
- Pb-intoxicatie