

# Bovien coronavirus, een respiratoir pathogeen



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# NIDOVIRALES

positief, enkelstrengig RNA virus

Klein genoom Nidovirales (13-16kb)

Middel genoom Nidovirales (20kb)

Groot genoom Nidovirales (26-32kb)

## Arteriviridae

- PRRSV
- EAV
- LDV
- SHDV

## Mesoniviridae



## Coronaviridae

### Coronavirinae

### Torovirinae

## Roniviridae



- Gill-associated virus
- Yellow head virus

### Alphacoronavirus

- TGEV
- PEDV
- CaCV
- FeCV
- HuCV 229E
- HuCV NL63
- PRCV
- FIPV

### Betacoronavirus

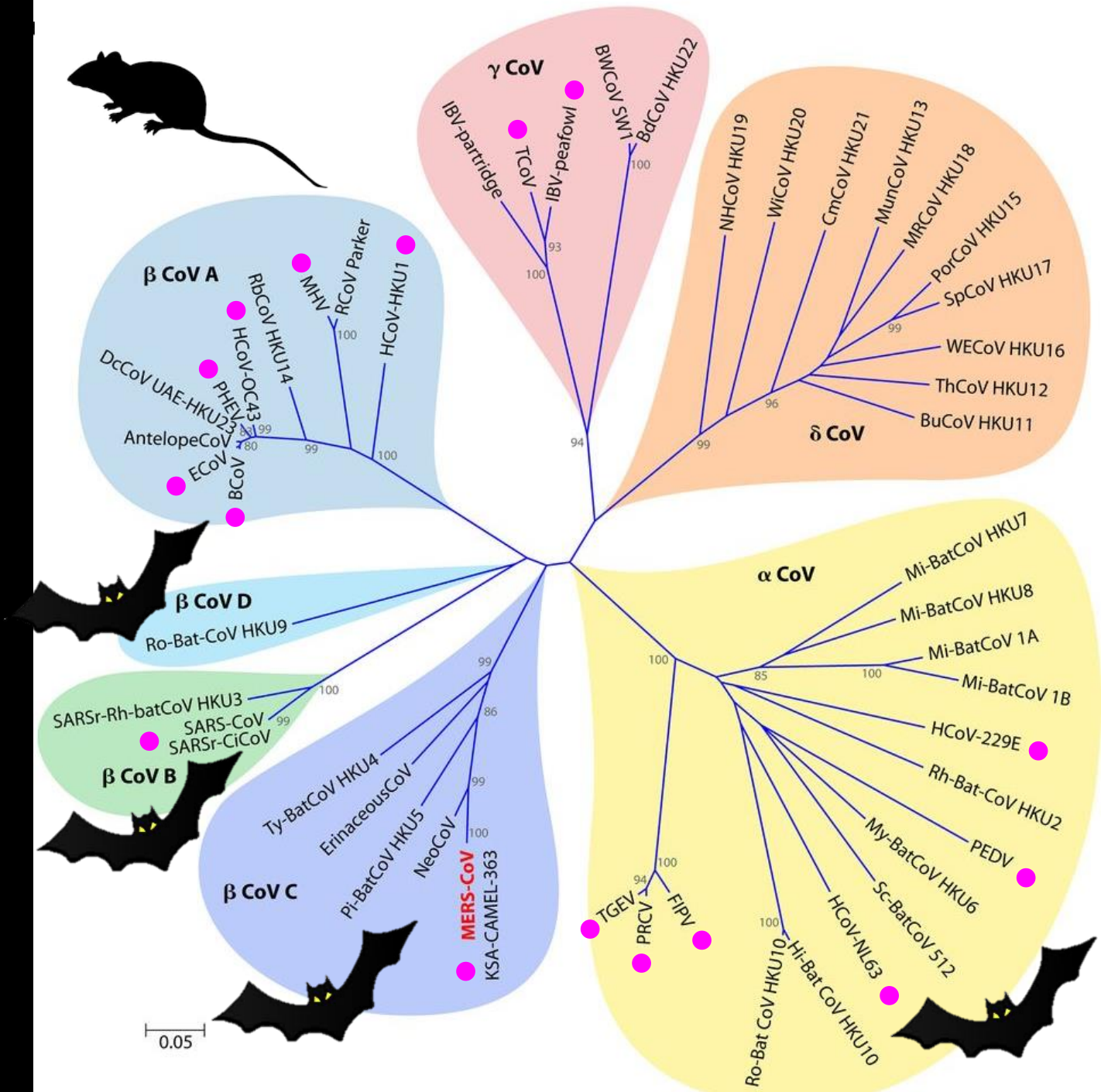
- PHEV
- BoCV
- EqCV
- CRCV
- MuHV
- RatCV
- HuCV OC43
- HuCV HKU1
- SARS-CoV-1
- SARS-CoV-2
- MERS-CoV

### Gammacoronavirus

- (N)IBV
- TuCV

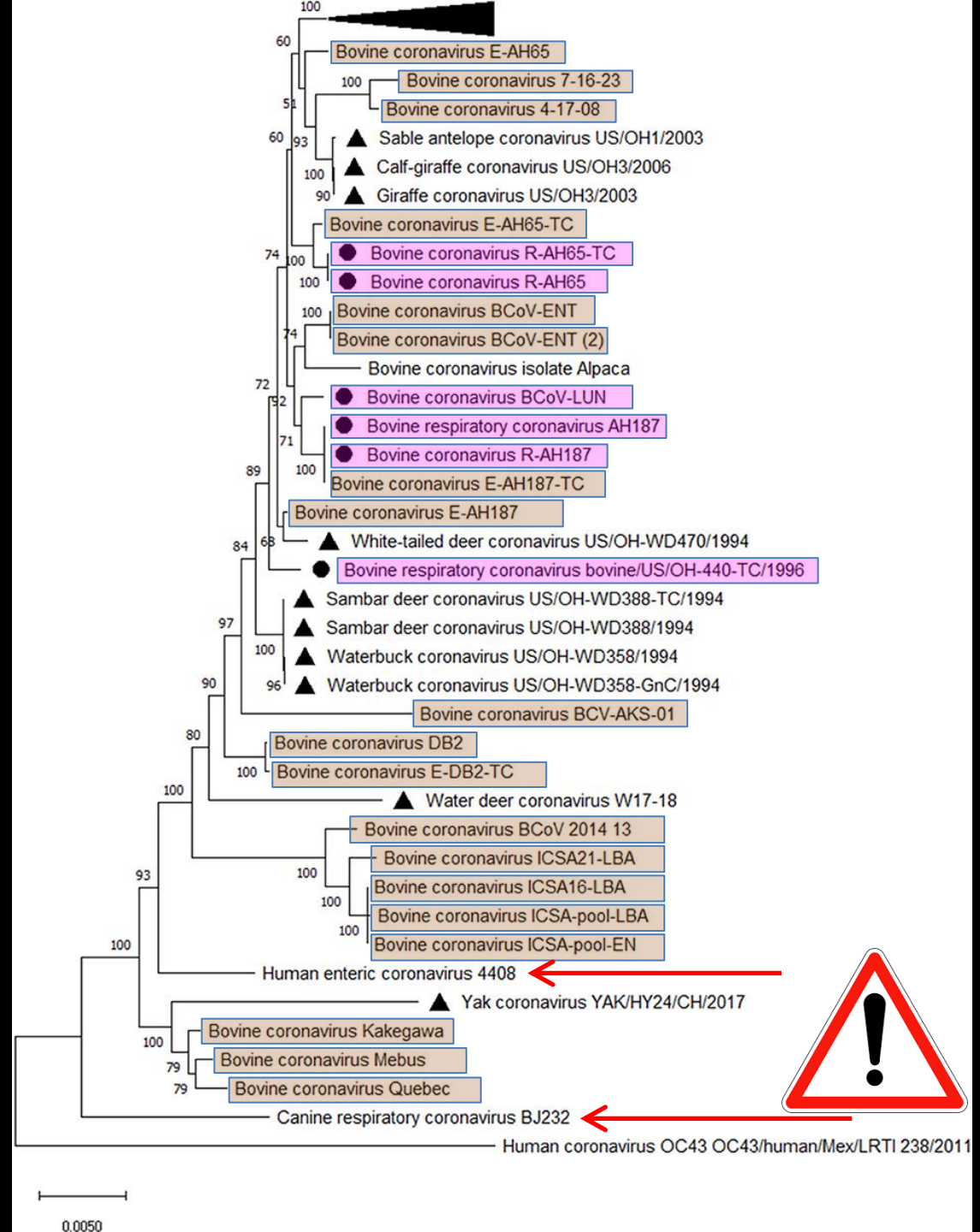
### Deltacoronavirus

# Coronavirussen

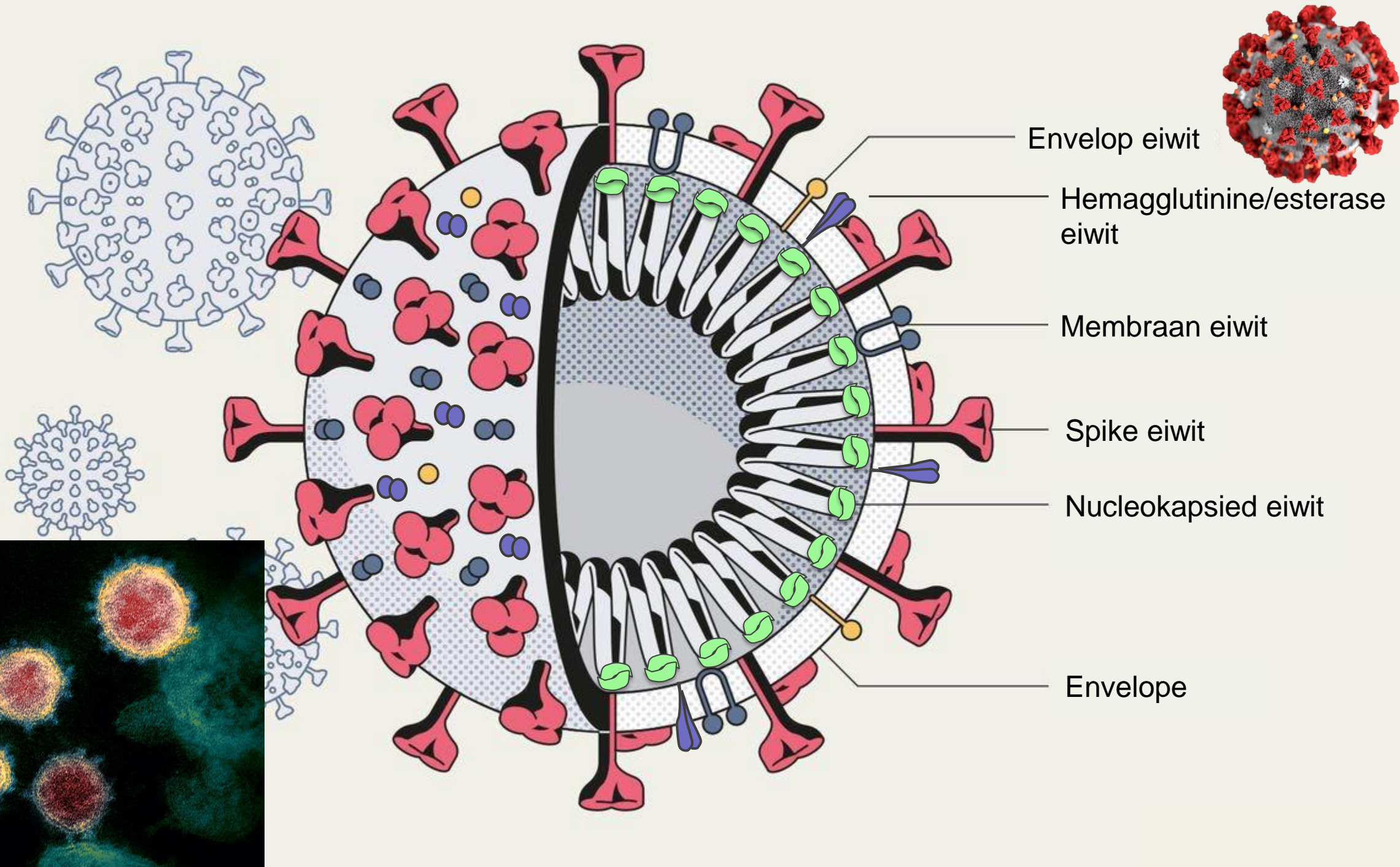


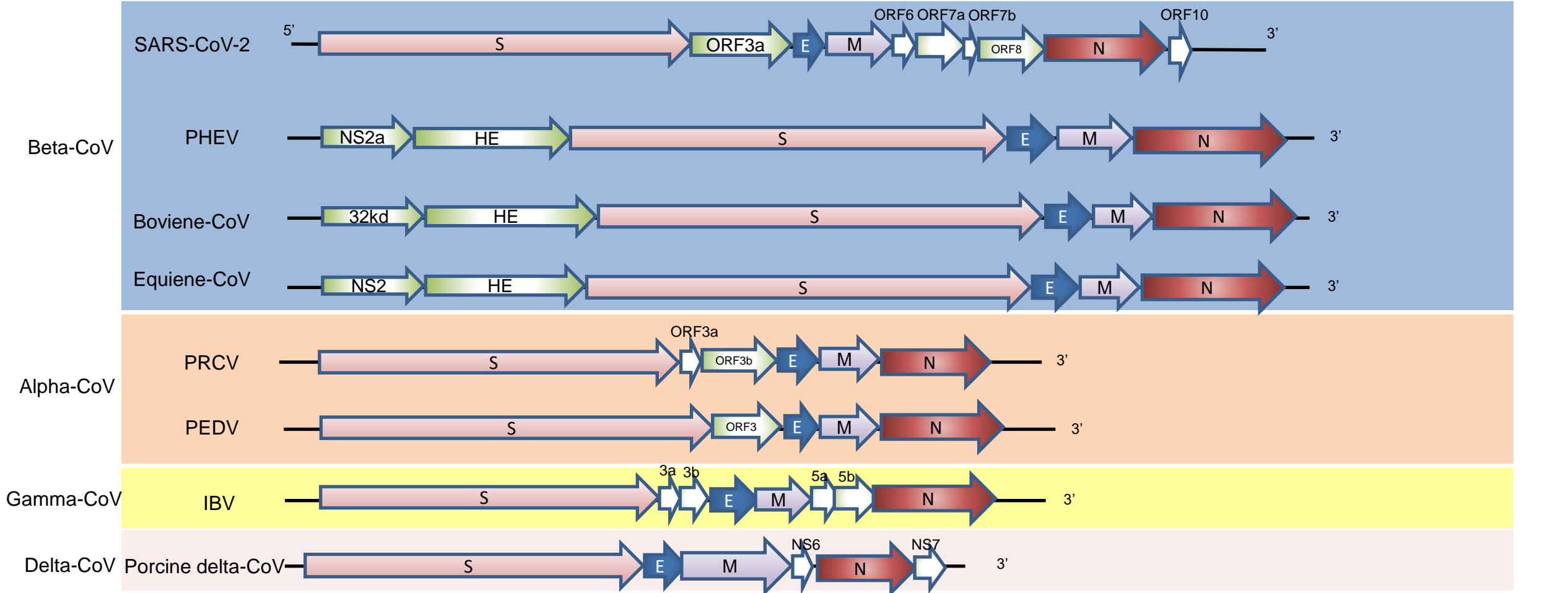
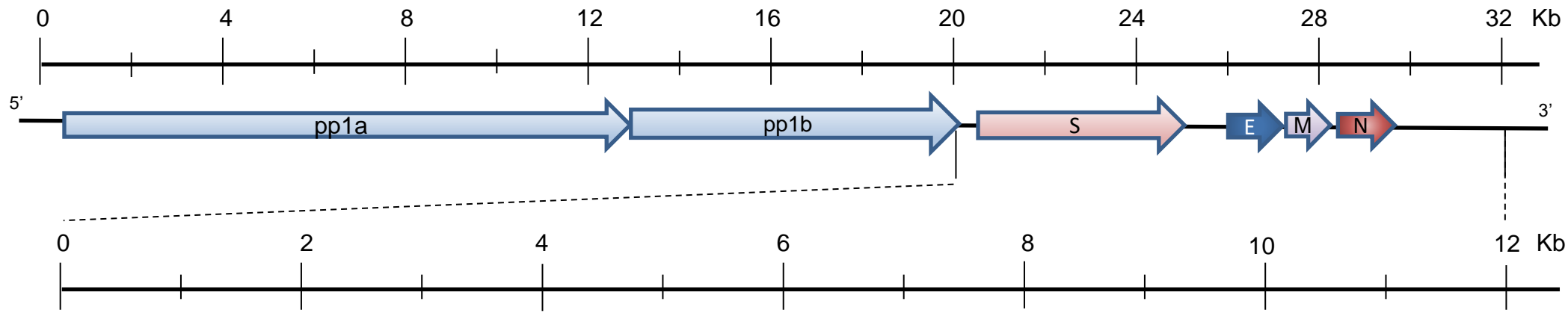


# Boviene coronavirussen



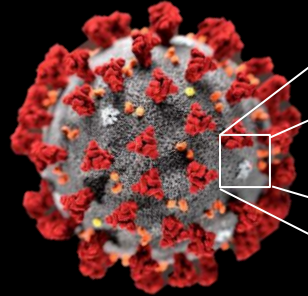
# BCoV



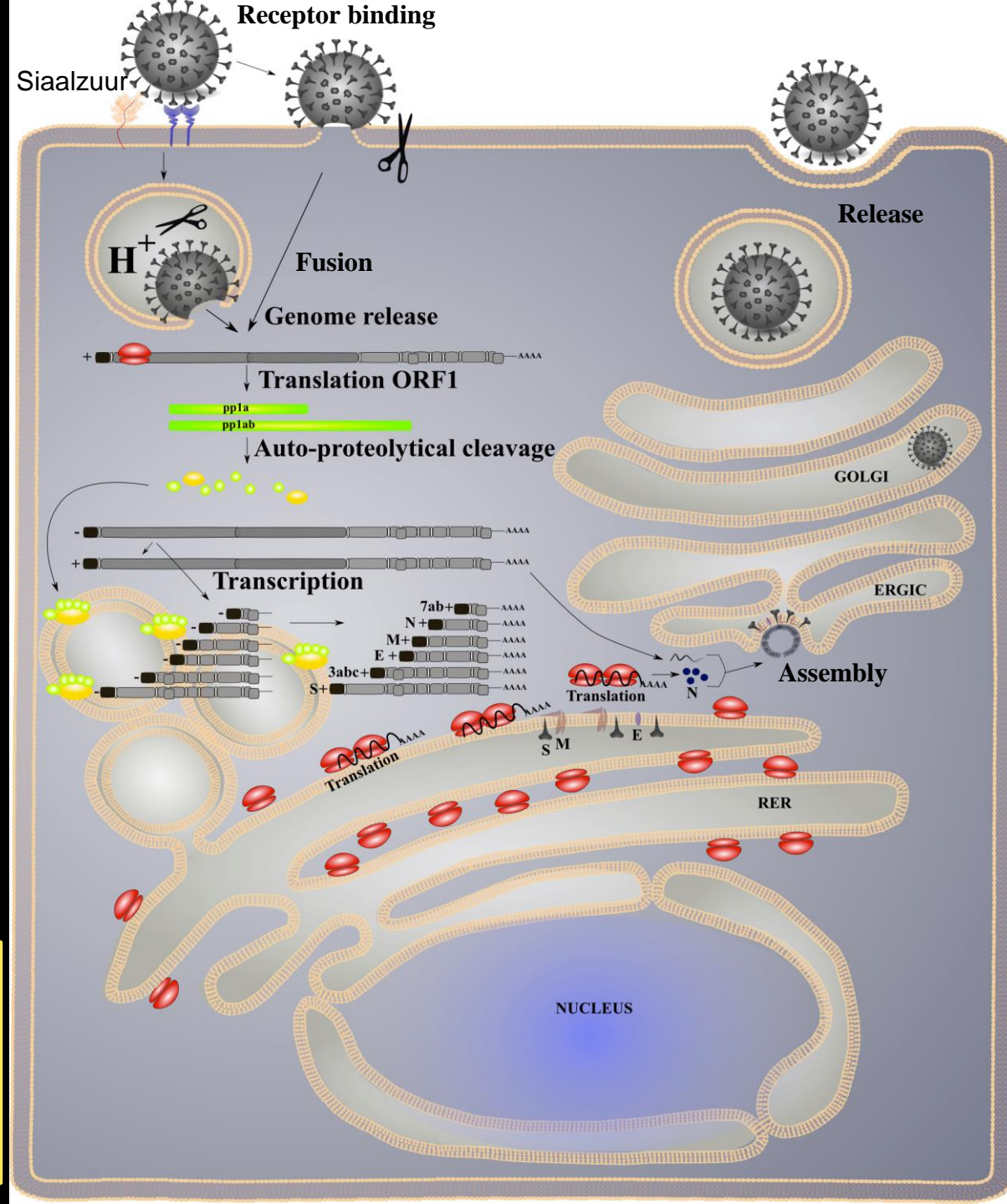
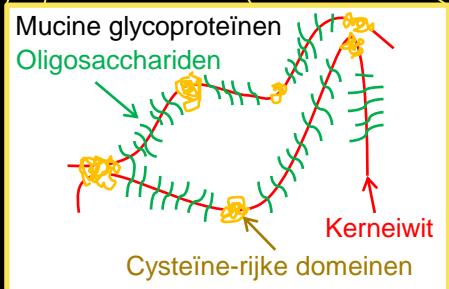
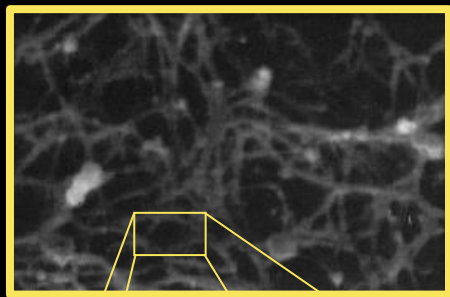
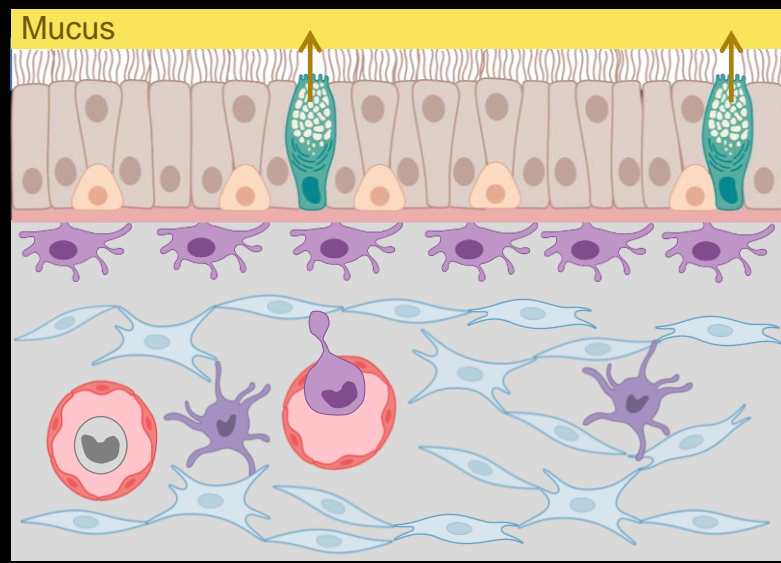
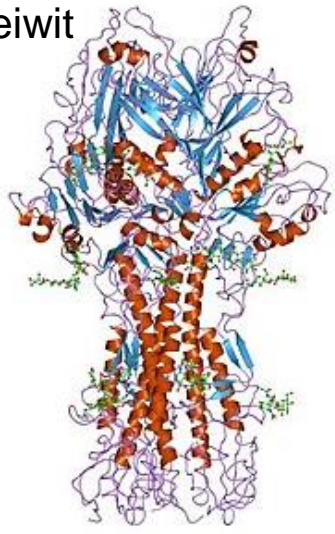




# Replicatie cyclus

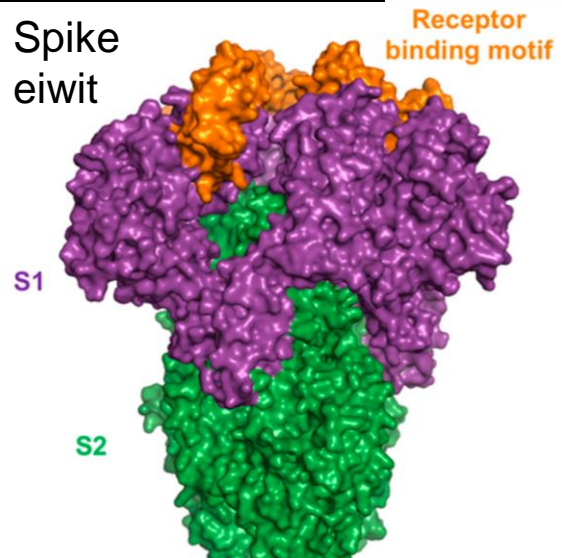
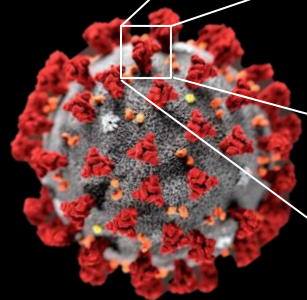


Hemagglutinine/  
esterase  
eiwit

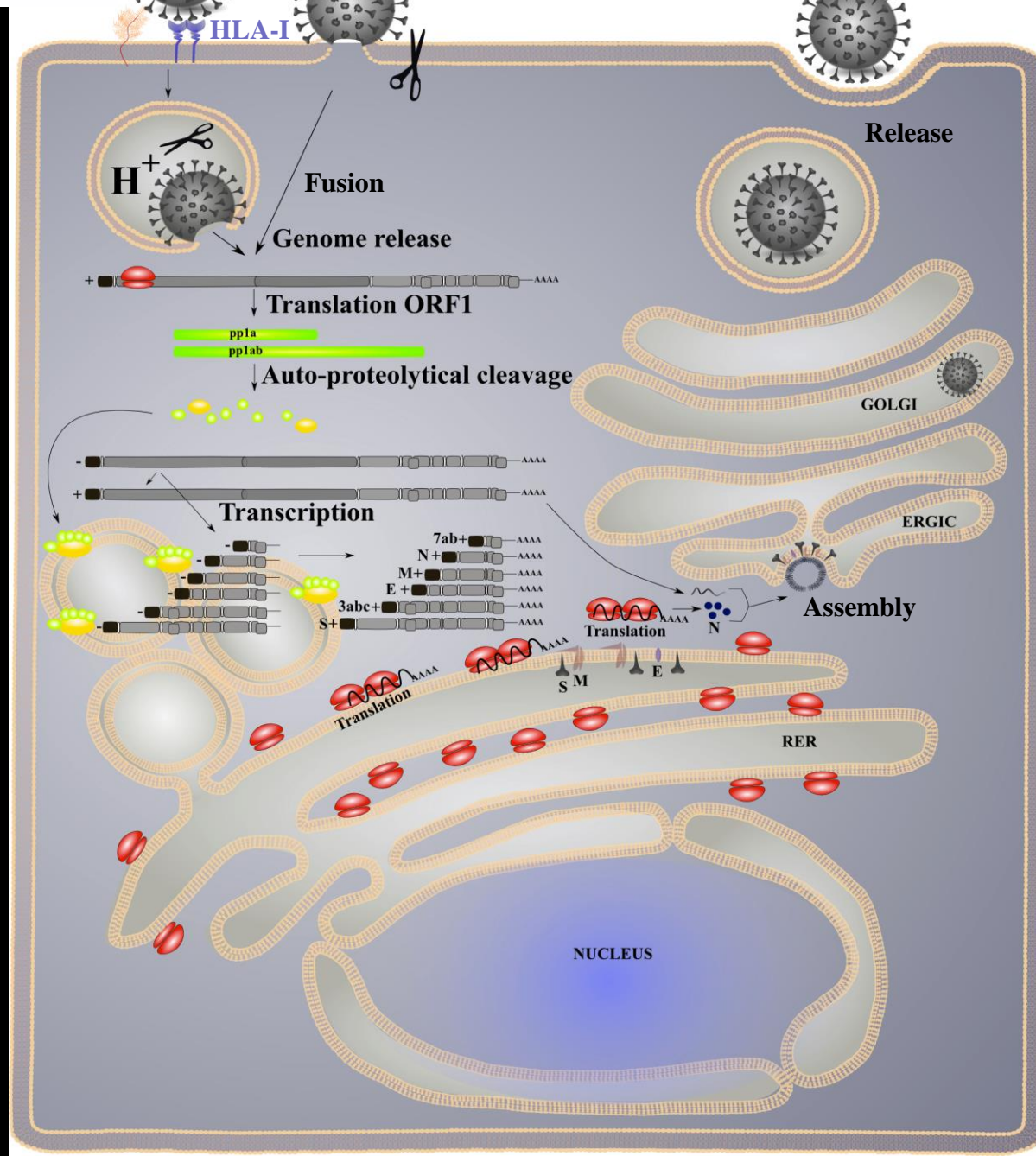
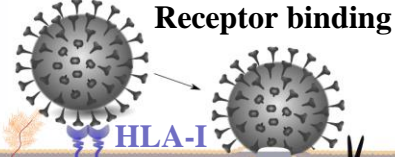




# Replicatie cyclus

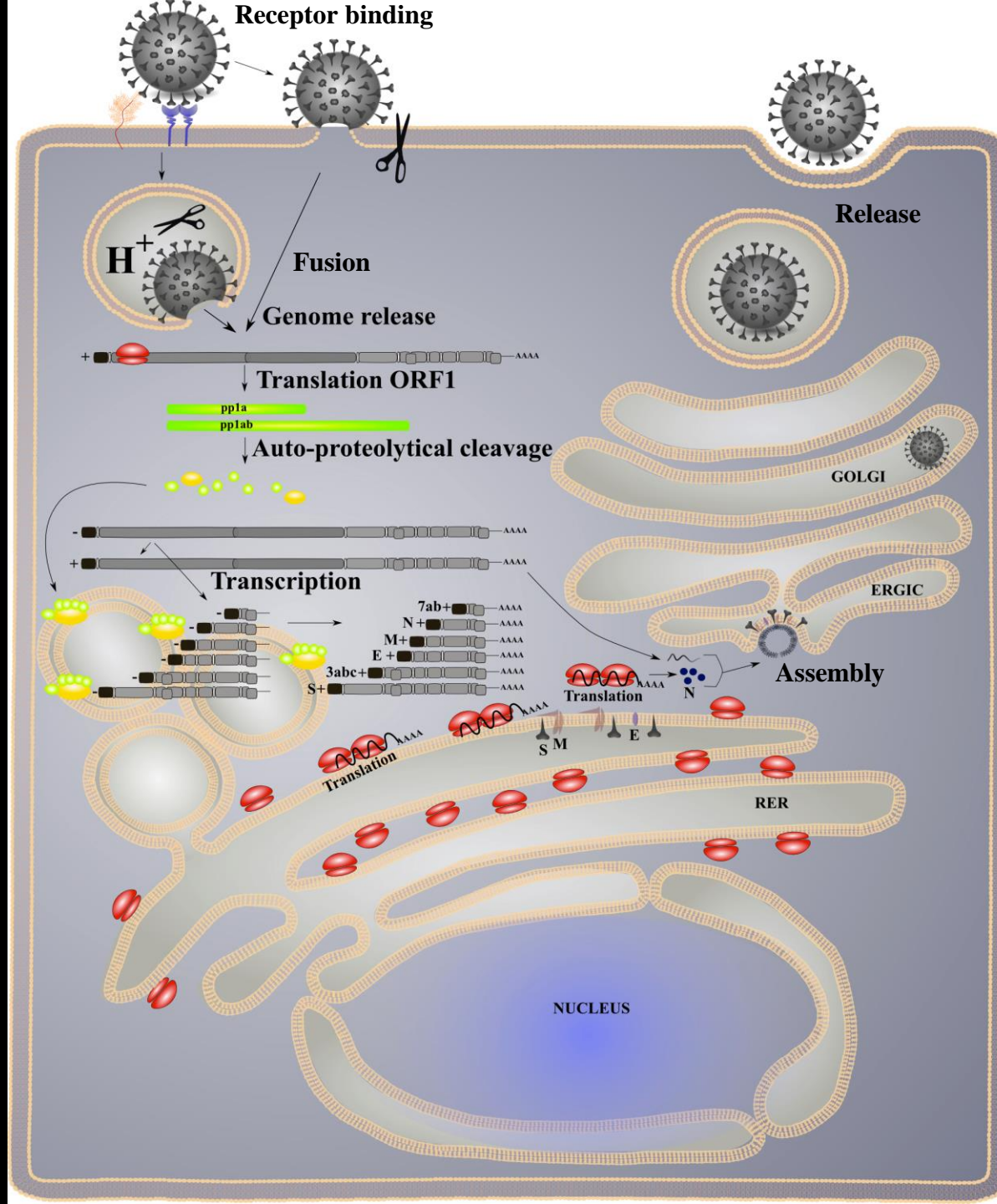


Human Leukocyte Antigen  
Class I (HLA-I)

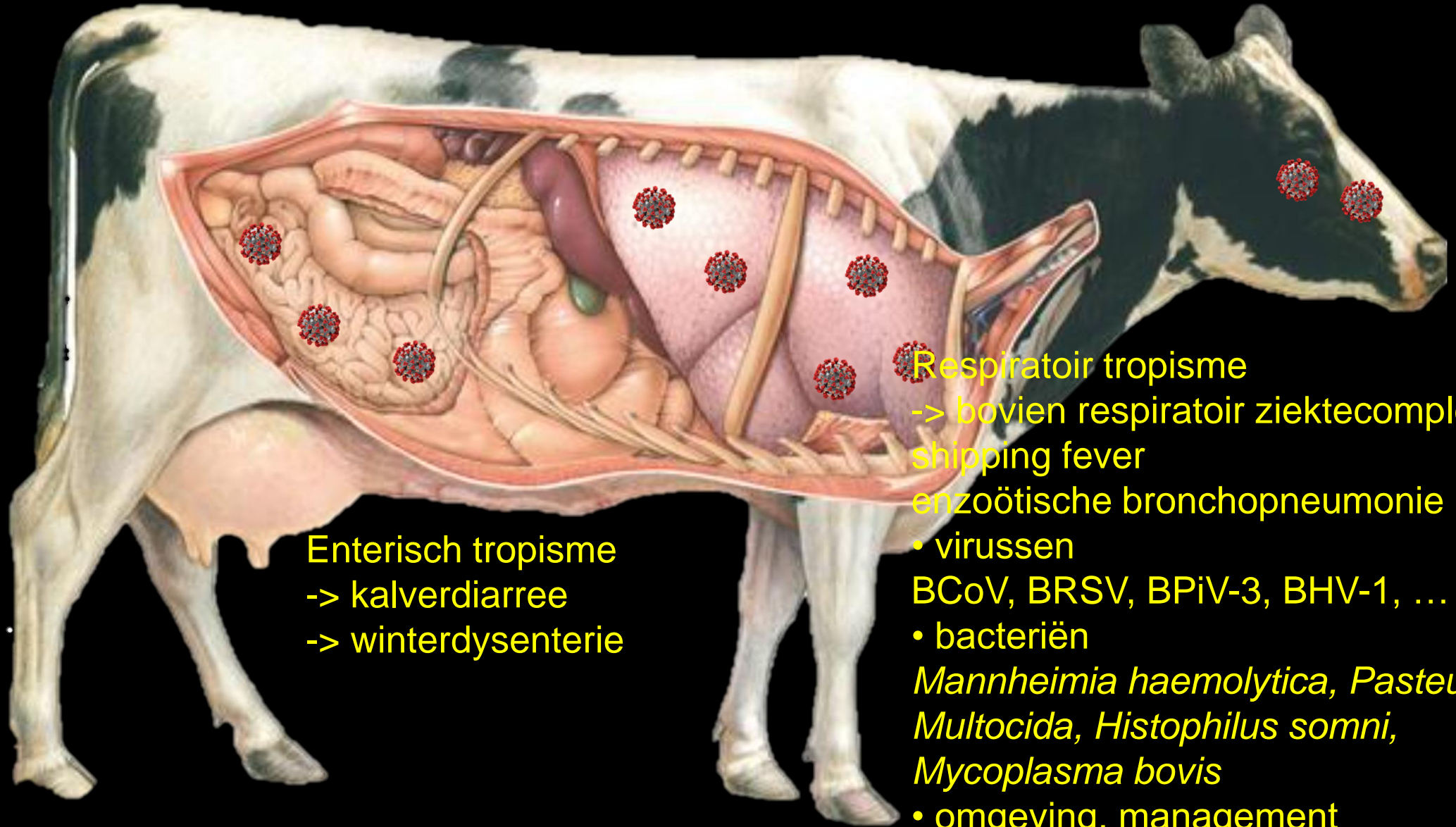




# Replicatie cyclus



# Pathogenese - BCoV-geassocieerde ziekten



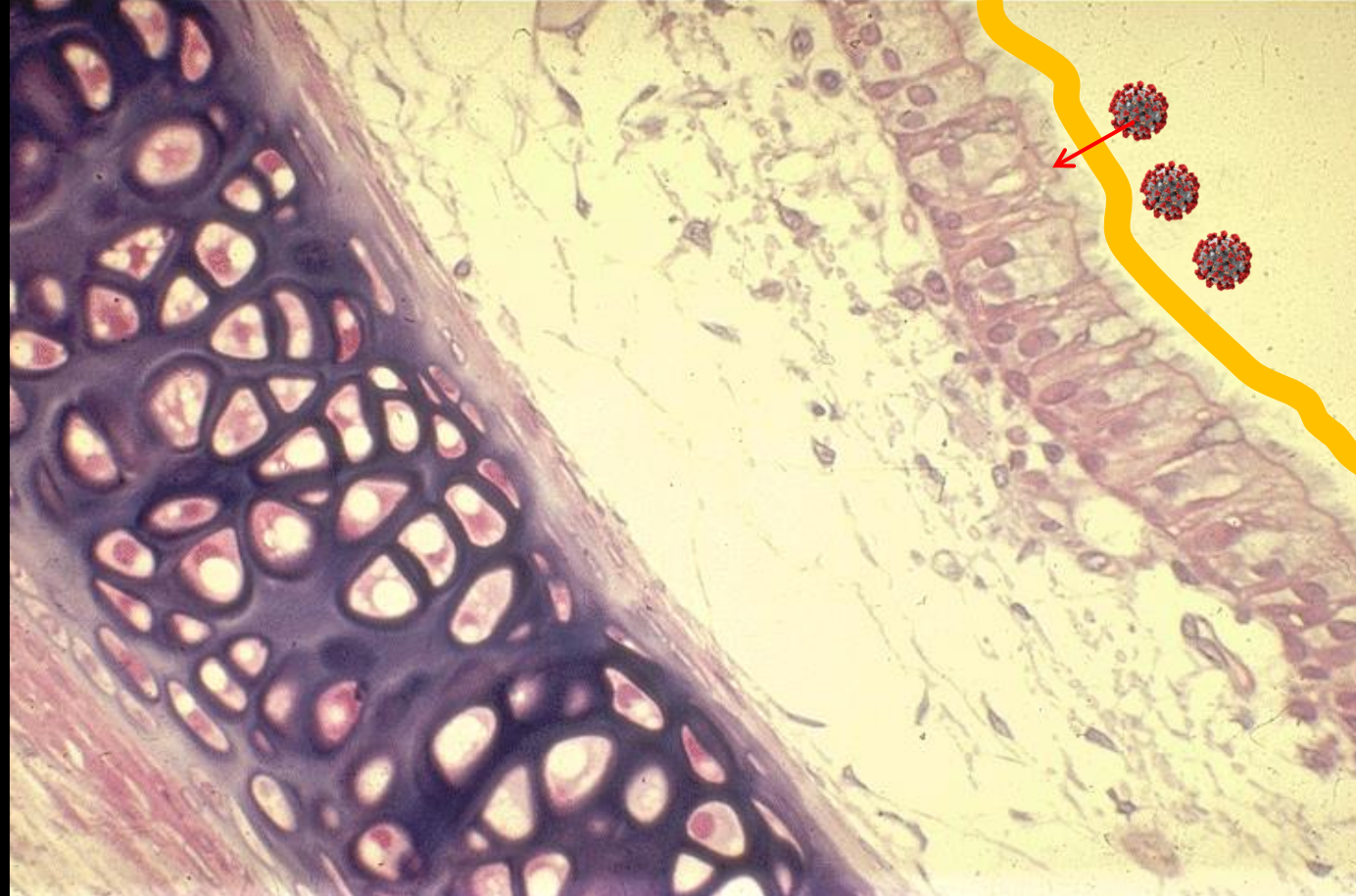
Enterisch tropisme  
-> kalverdiarree  
-> winterdysenterie

Respiratoir tropisme  
-> bovien respiratoir ziektecomplex  
shipping fever  
enzoötische bronchopneumonie

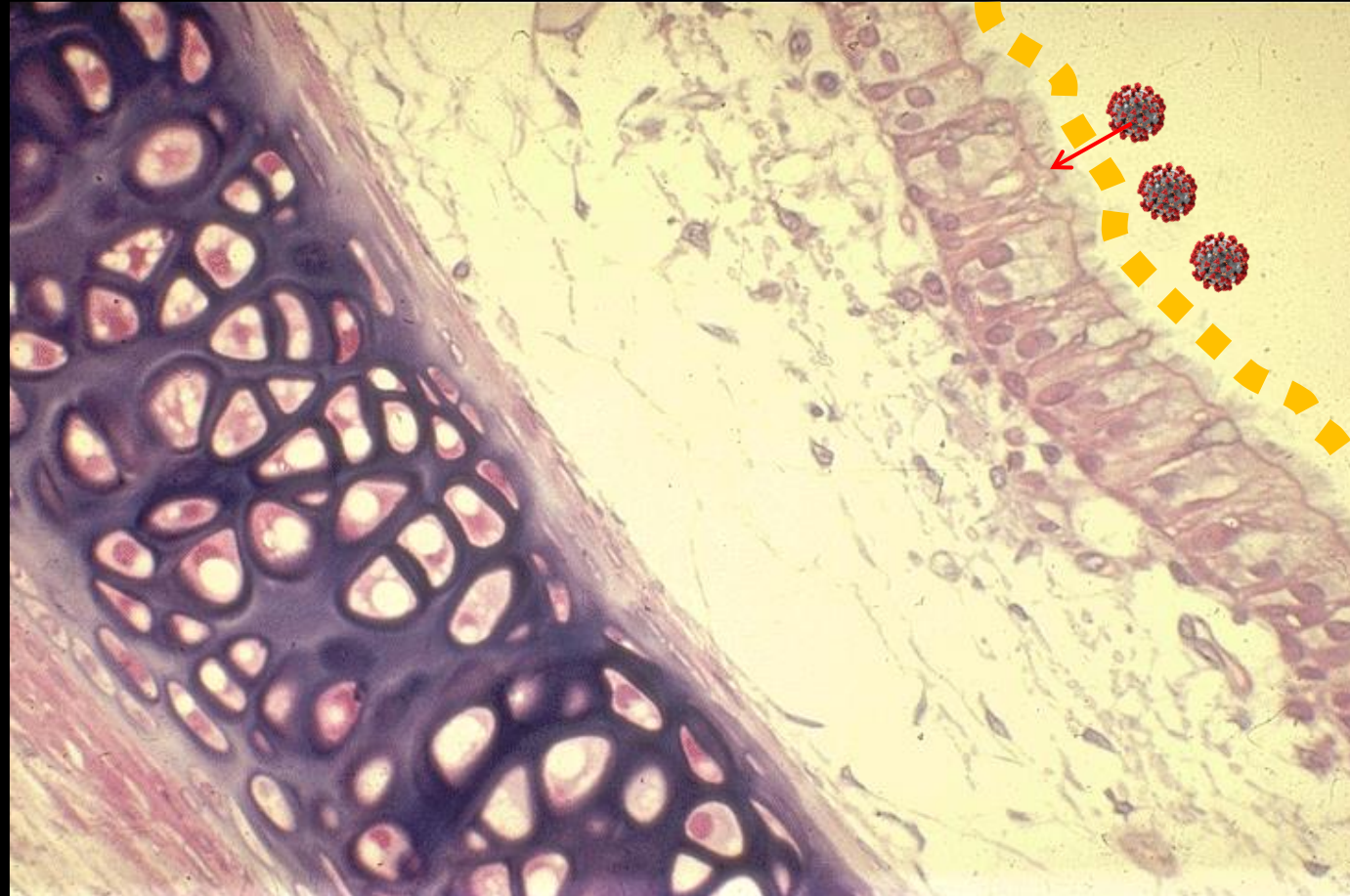
- virussen  
BCoV, BRSV, BPIV-3, BHV-1, ...
- bacteriën  
*Mannheimia haemolytica*, *Pasteurella Multocida*, *Histophilus somni*,  
*Mycoplasma bovis*
- omgeving, management



# Pathogenese - ademhalingsstelsel



# Pathogenese - ademhalingsstelsel

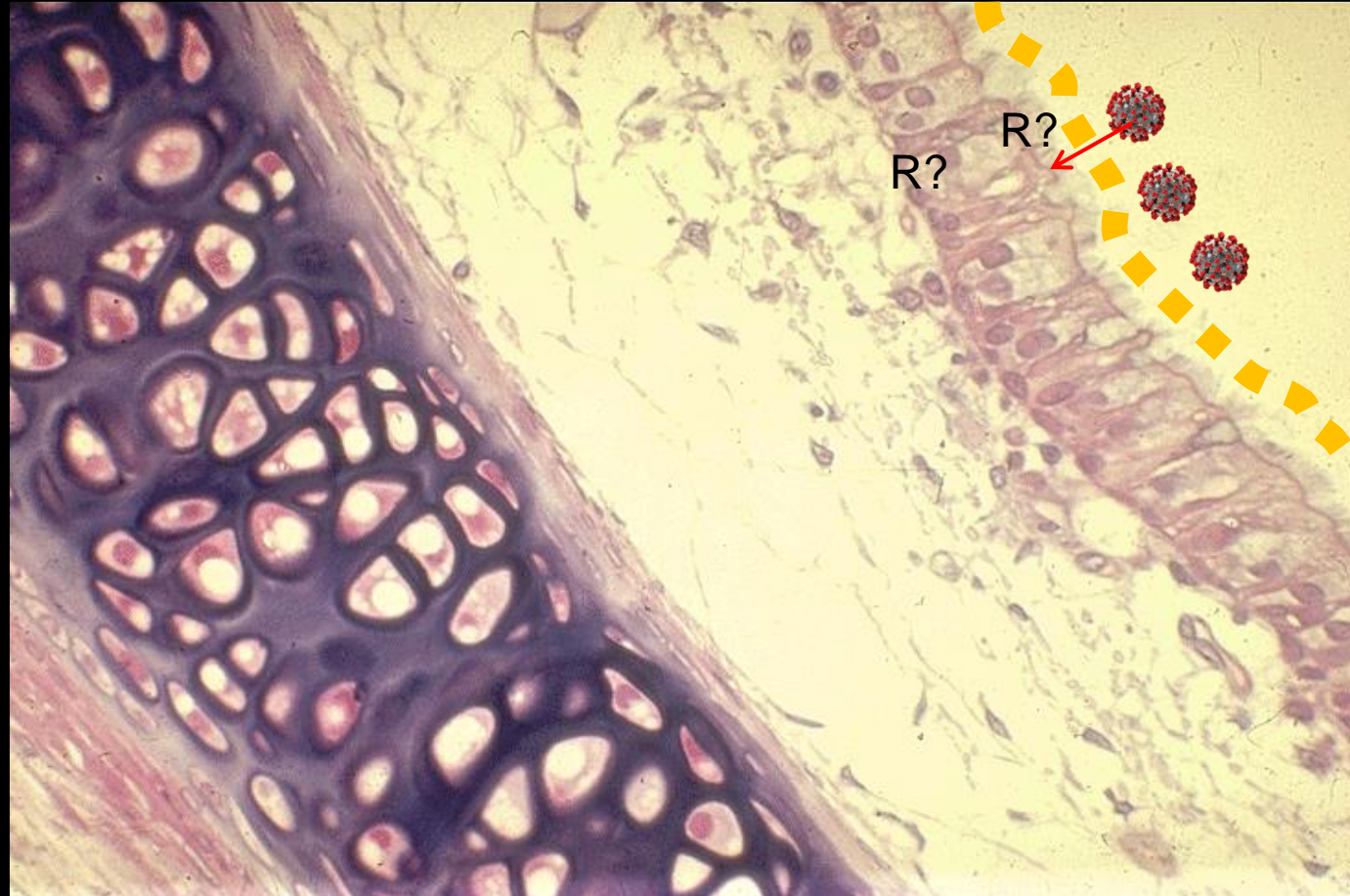


Mucolytische  
noxen

- pollen
- bacteriën
- schimmelsporen
- stof
- gassen
- ...



# Pathogenese - ademhalingsstelsel

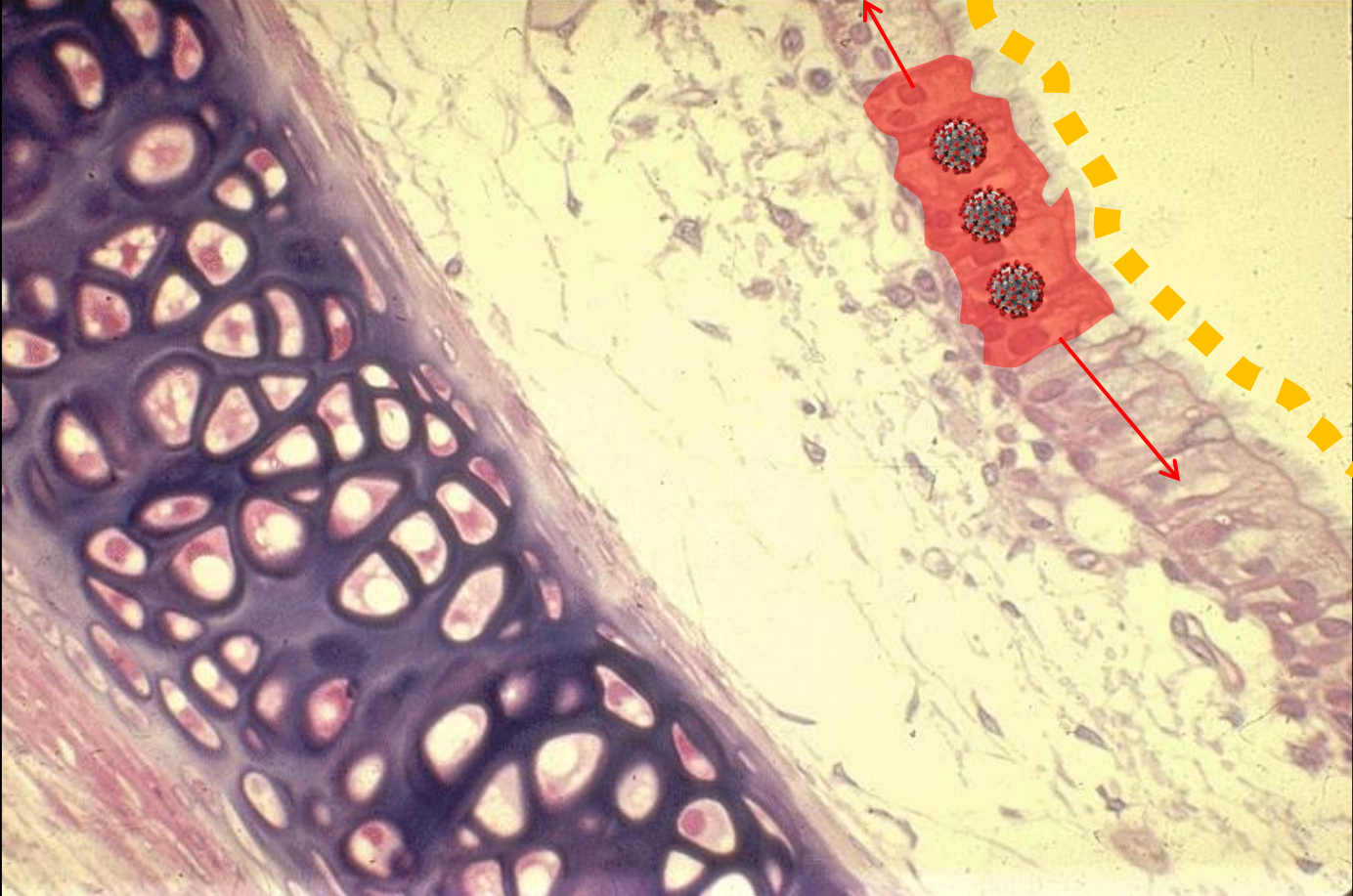
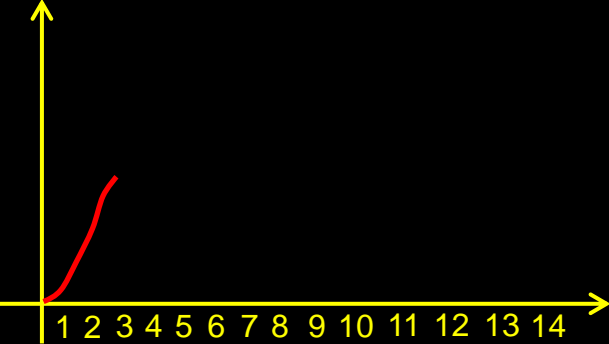


Bereik receptor?

Tight junction  
noxen

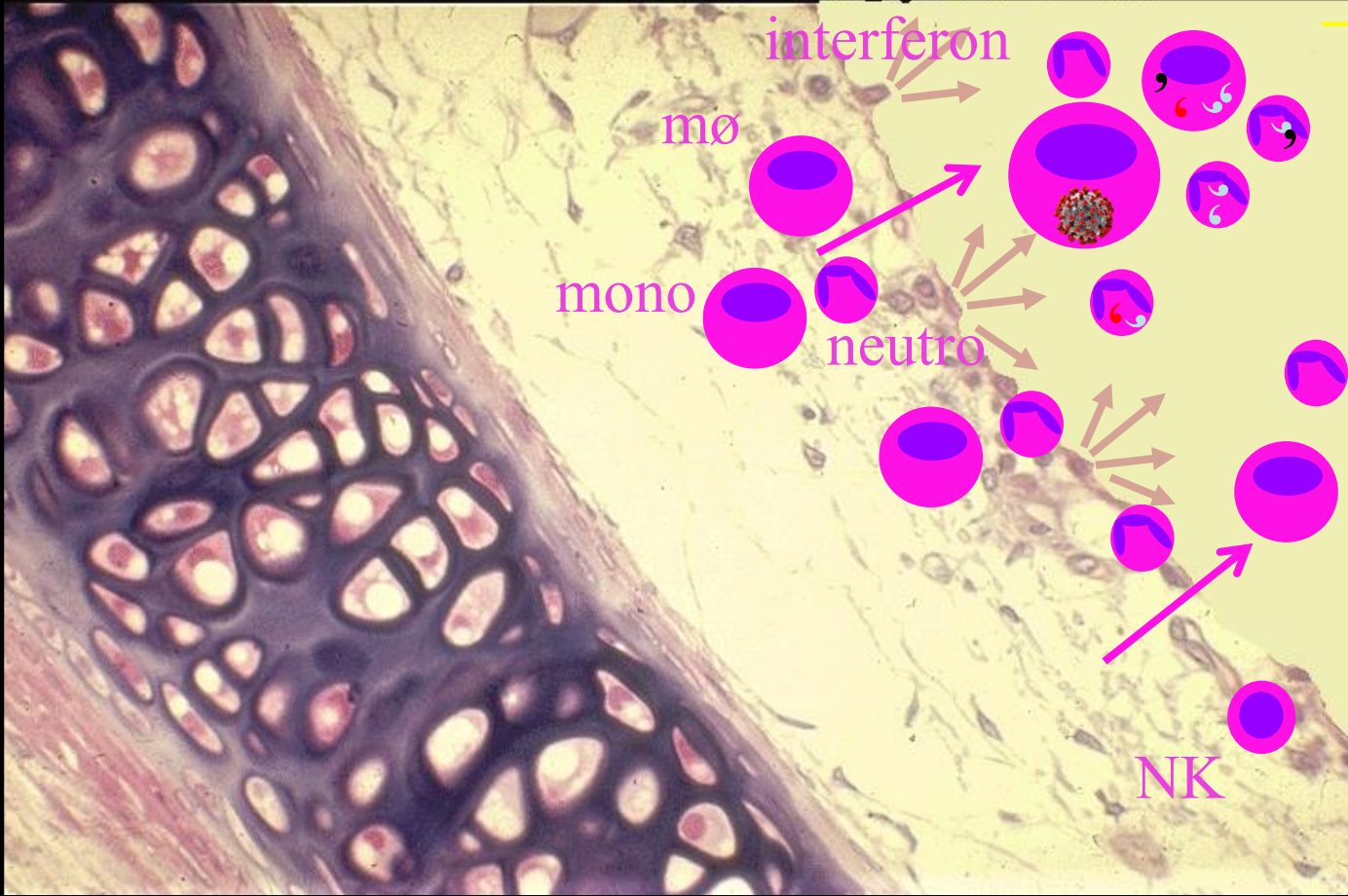
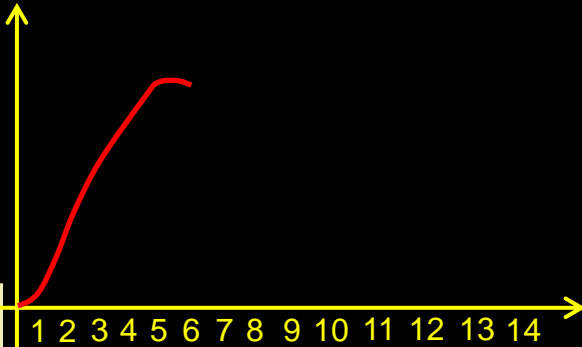
- pollen
- bacteriën
- mycotoxines
- geneesmiddelen  
vb. Lysomucil®
- ...

# Pathogenese - ademhalingsstelsel

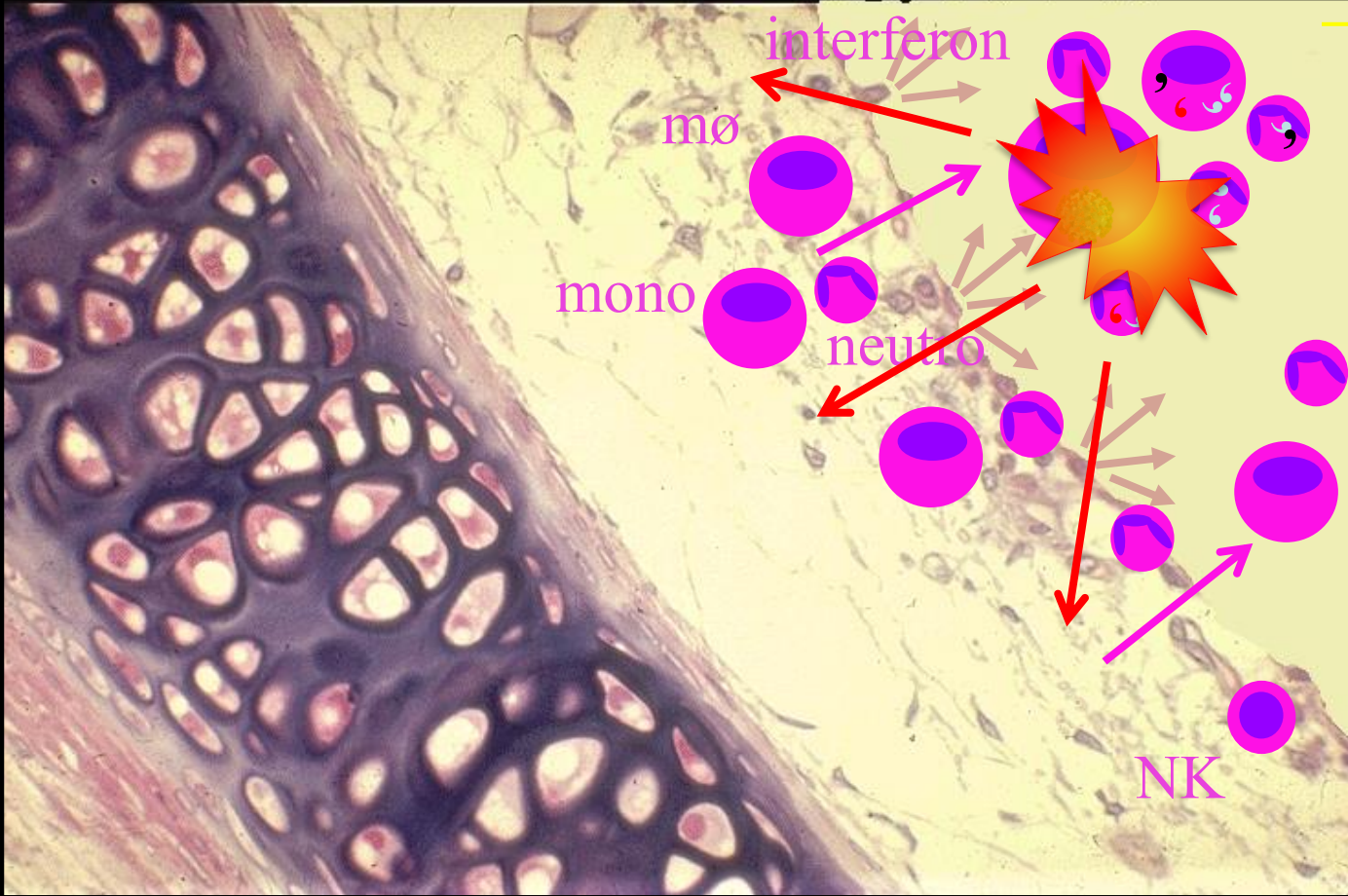
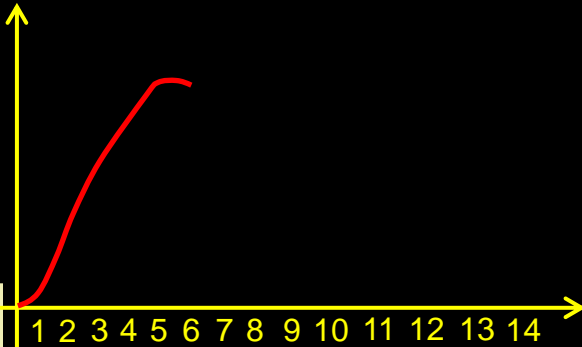




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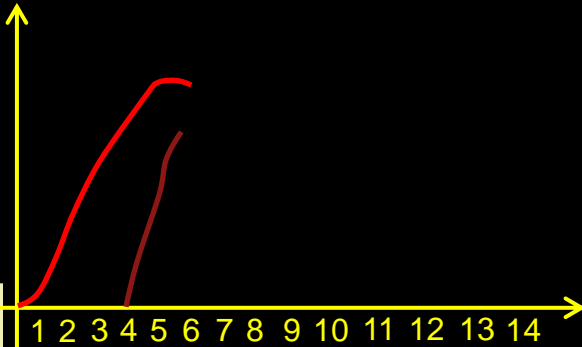
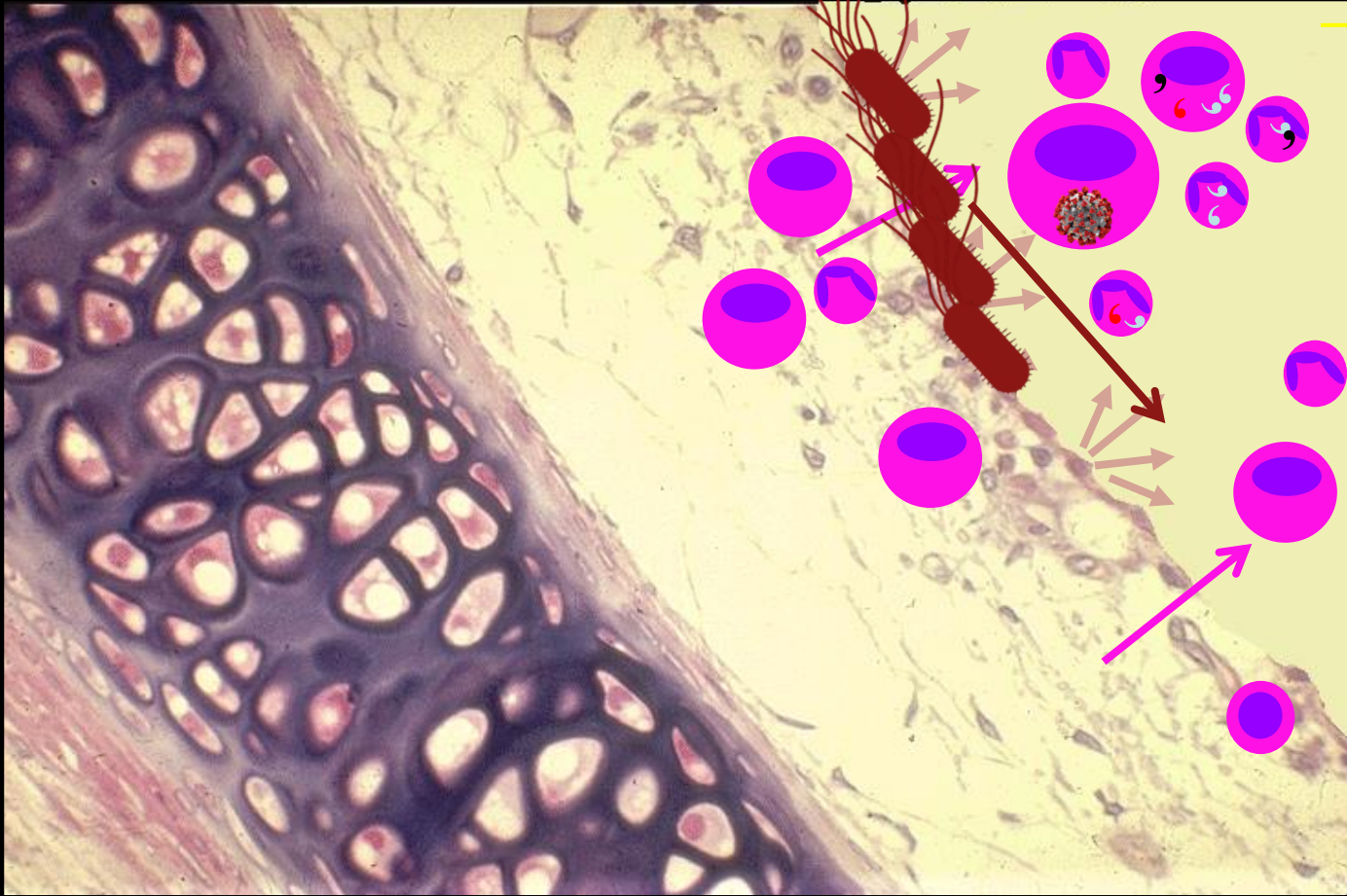
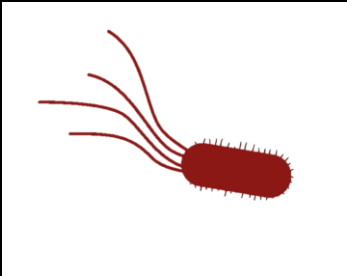


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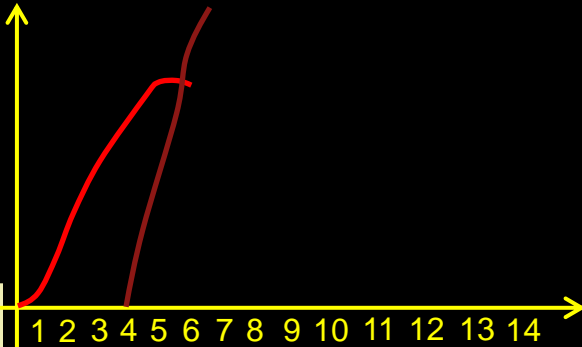
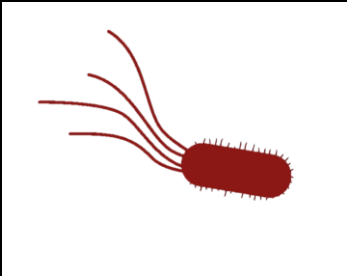




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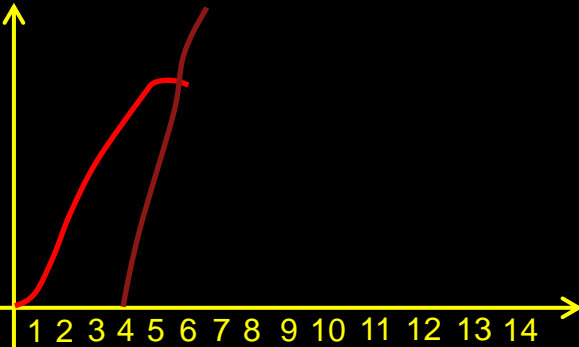
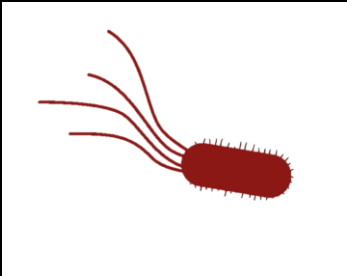


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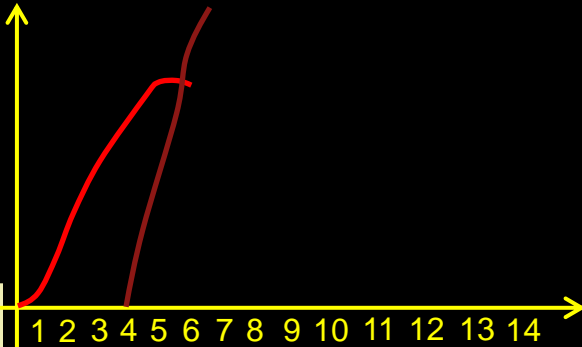
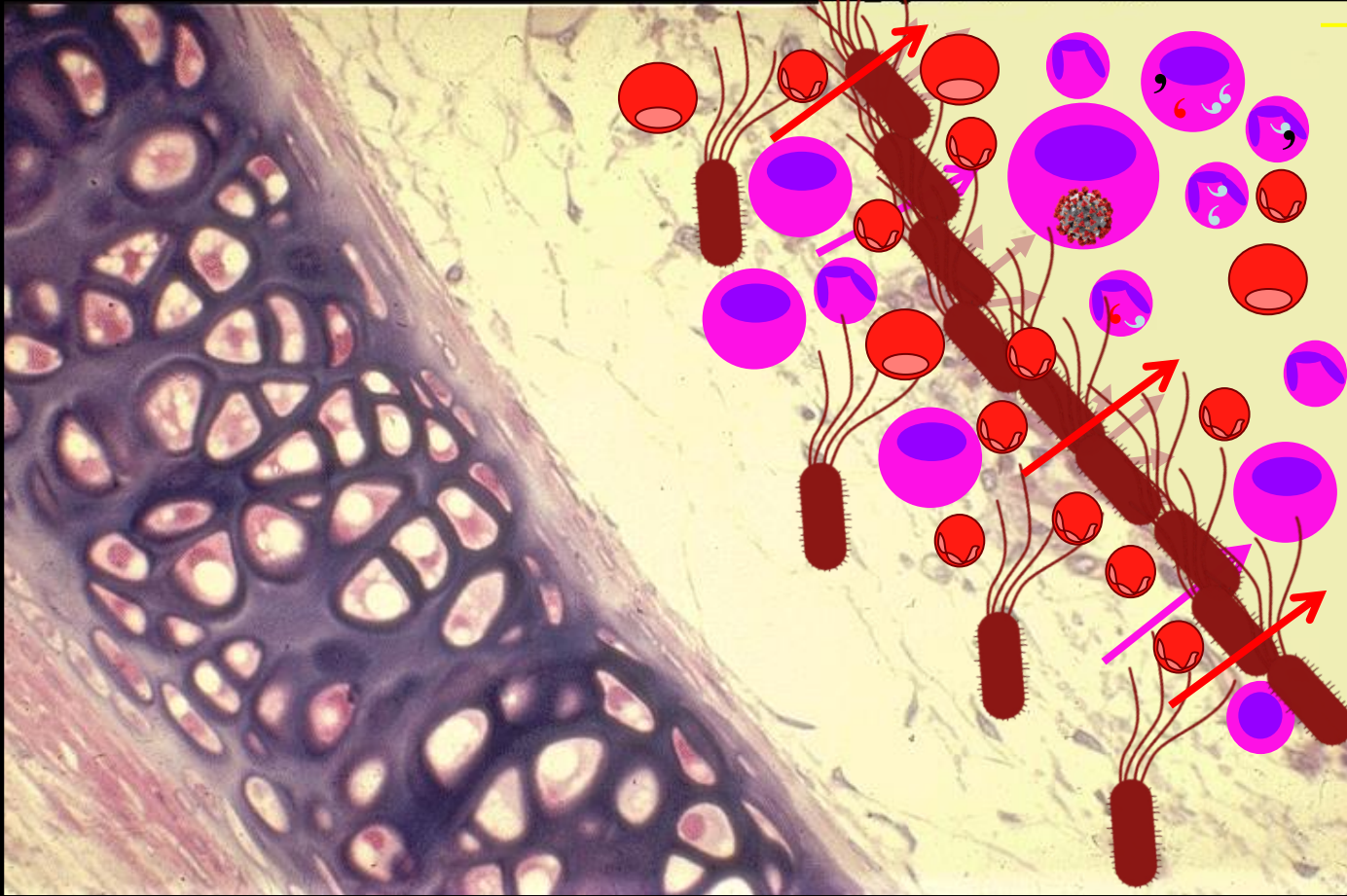
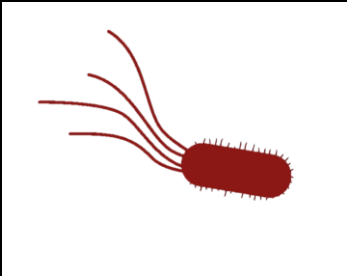




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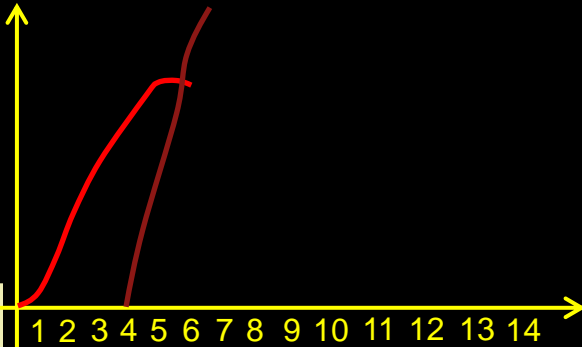
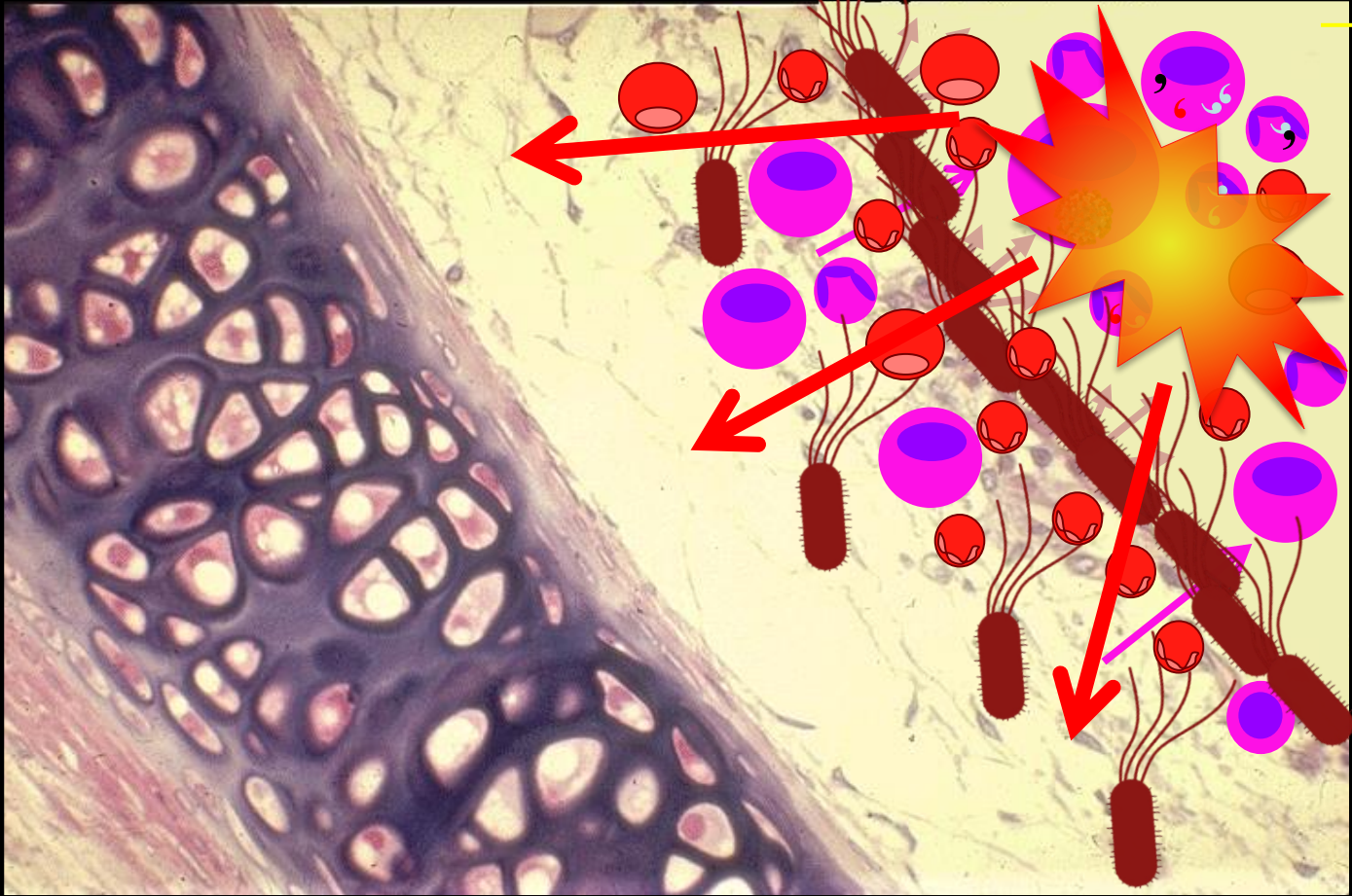
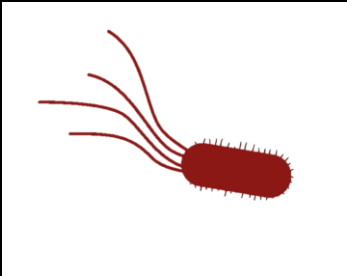


# Pathogenese - ademhalingsstelsel





# Pathogenese - ademhalingsstelsel



Kliniek ~ destructie longweefsel

~ n virussen/bacteriën

~ noxes

~ ventilatie/hygiene/temperatuur

~ consistentie longweefsel

~ innate immunity

destructie  
longweefsel

kliniek



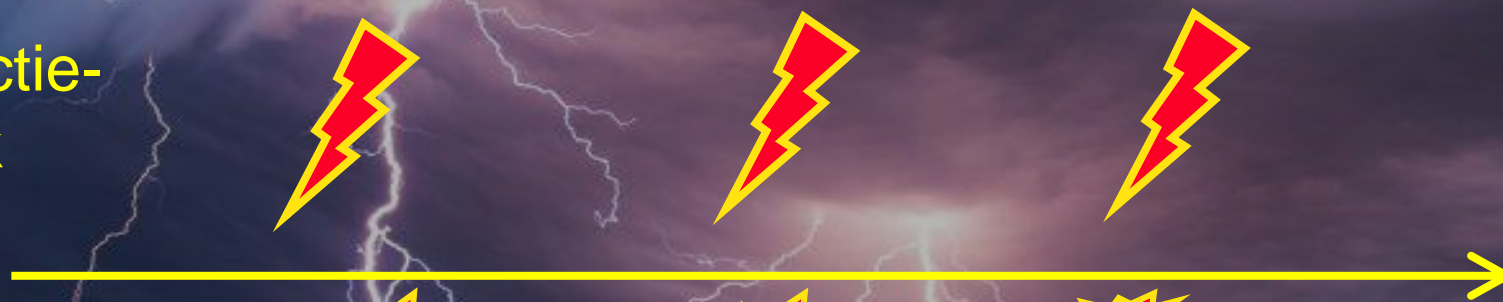


# Kliniek - invloed van leeftijd (innate immunity priming/weefsel consistentie)

infectie-  
druk

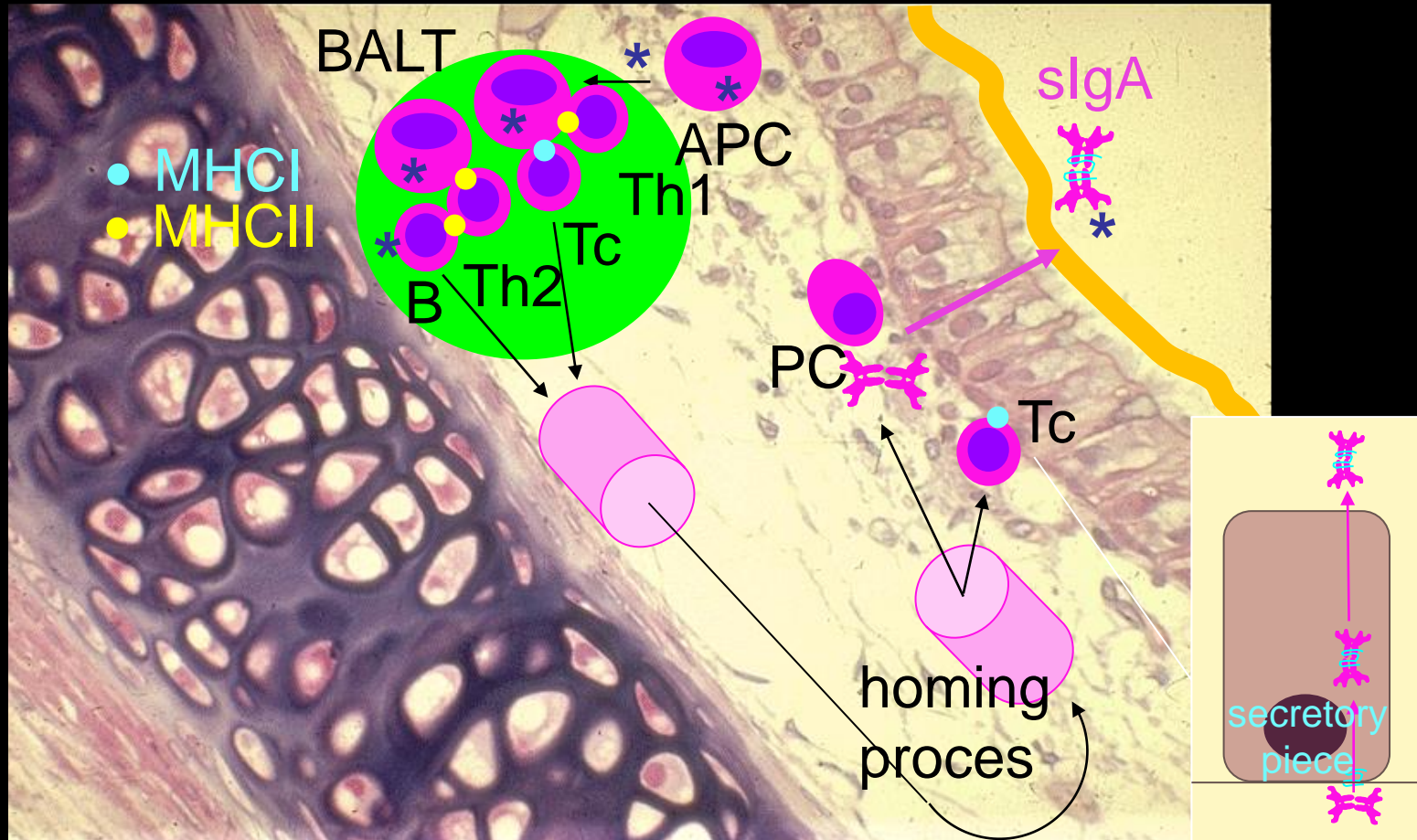
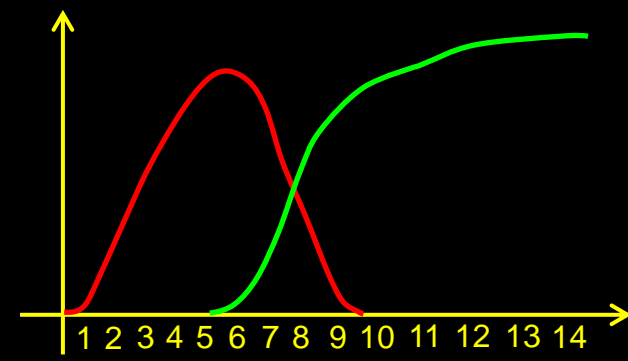
kliniek

Leeftijd



# Adaptieve immuniteit ademhalingsstelsel

lokale/mucosale  
immuniteit

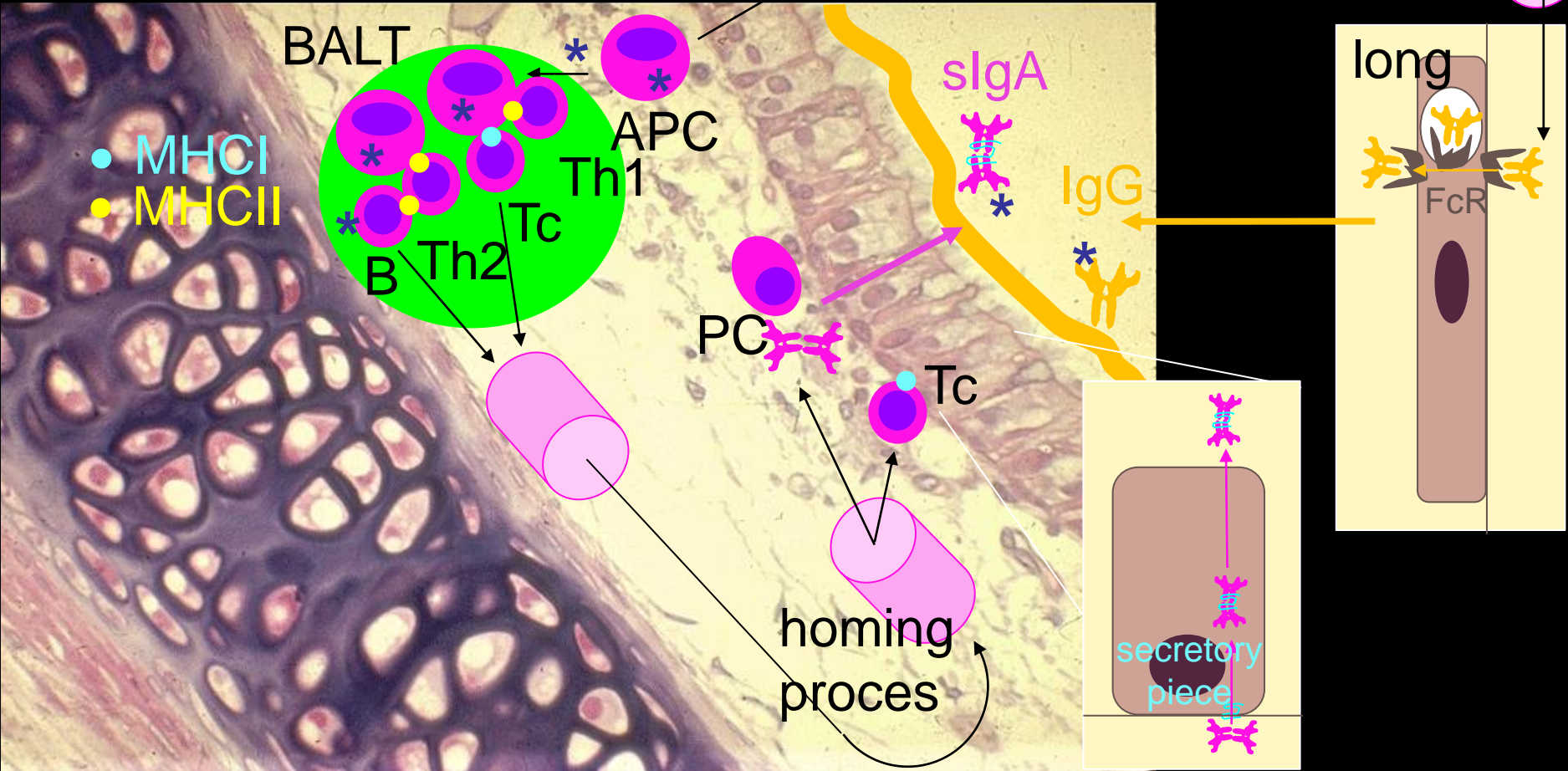
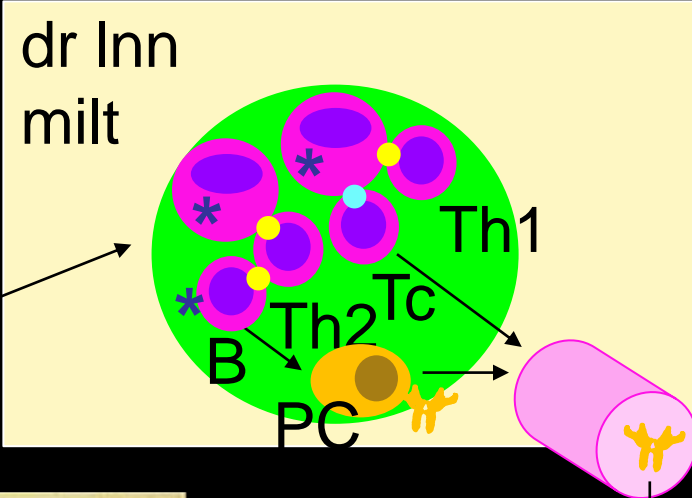




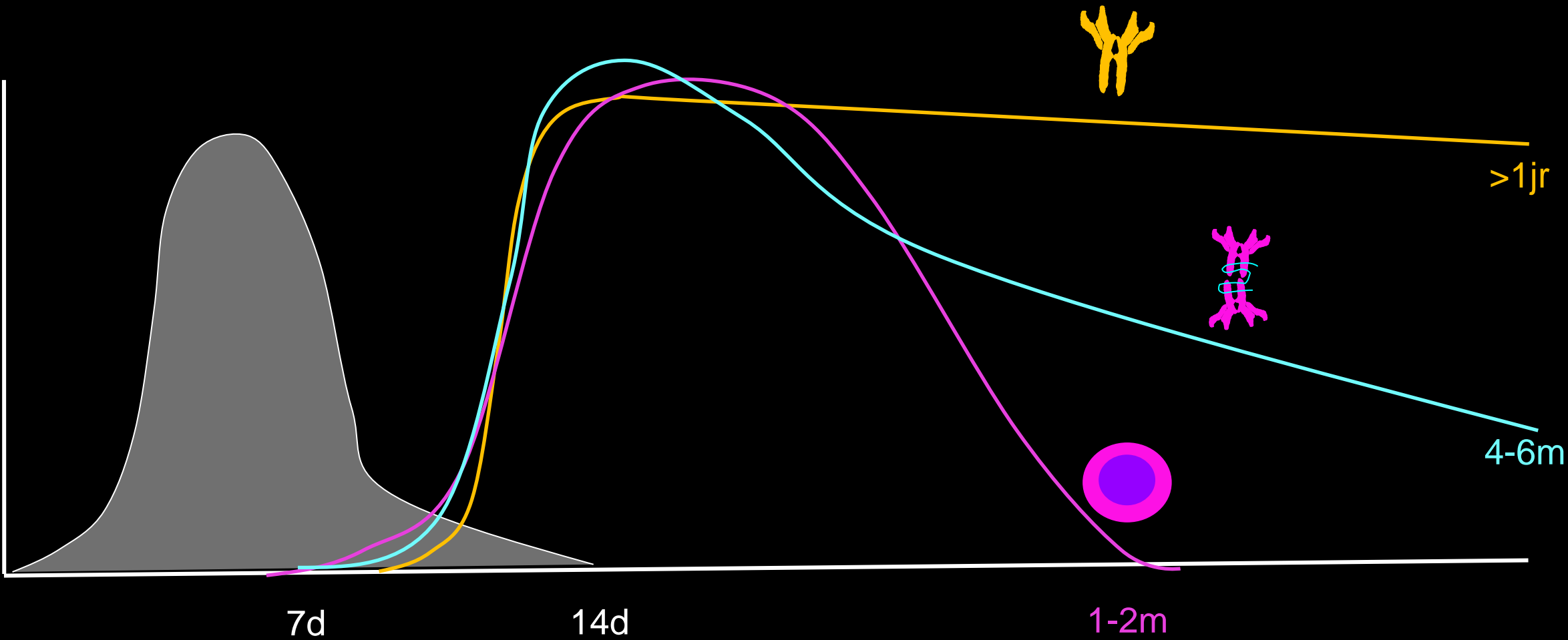
# Adaptieve immuniteit ademhalingsstelsel

lokale/mucosale  
immuniteit

systemische  
immuniteit

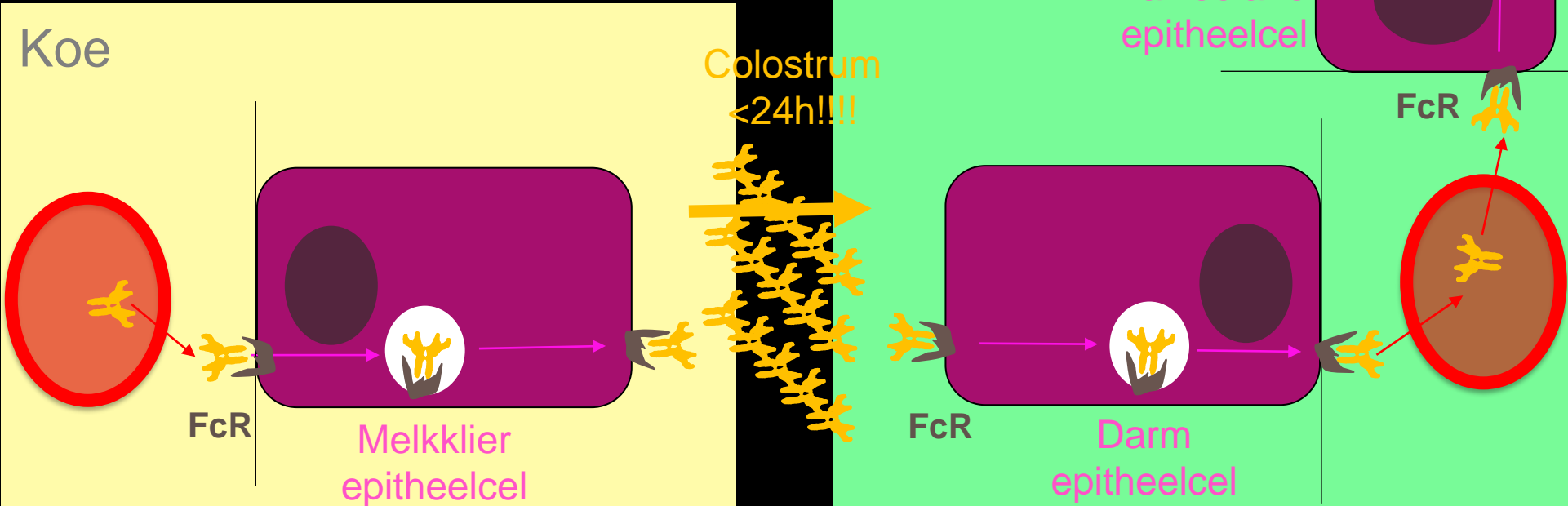


# Adaptieve immuniteit ademhalingsstelsel





# Passieve immuniteit - IgG transport



# Passieve immuniteit - duur bescherming

