

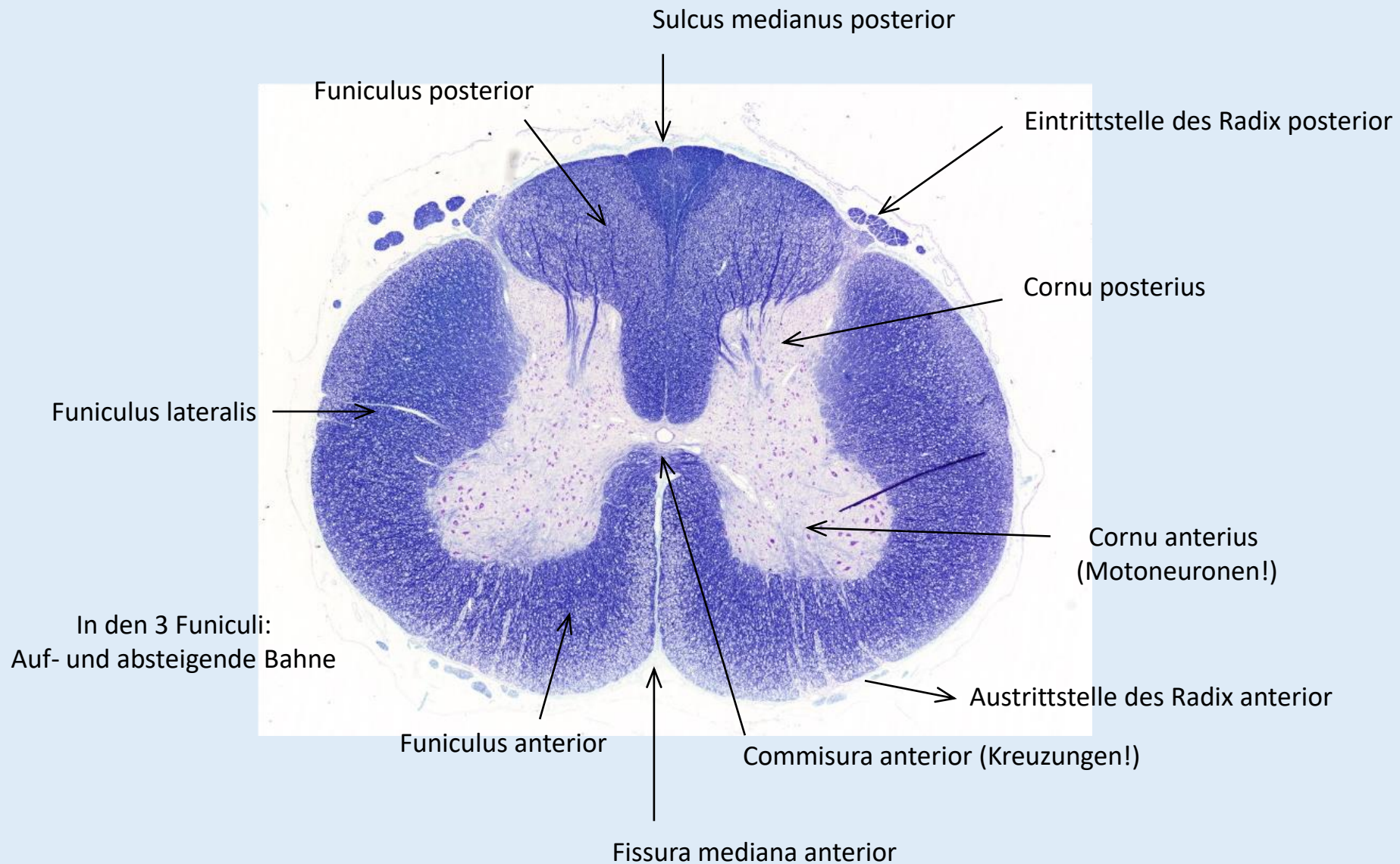
# **Histologie des Nervensystems. Sinnesorgane.**

Fakultät für Pharmazie

*Histologie-Praktikum VI.*

**Anatomisches, Histologisches und Embryologisches Institut  
2018.**

# Querschnitt des Rückenmarks

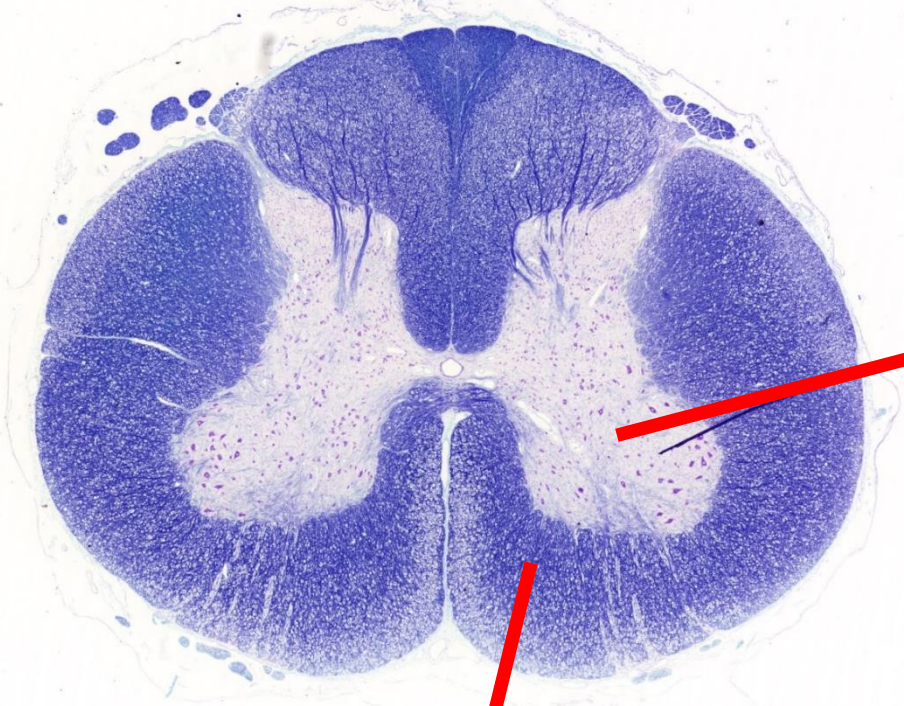




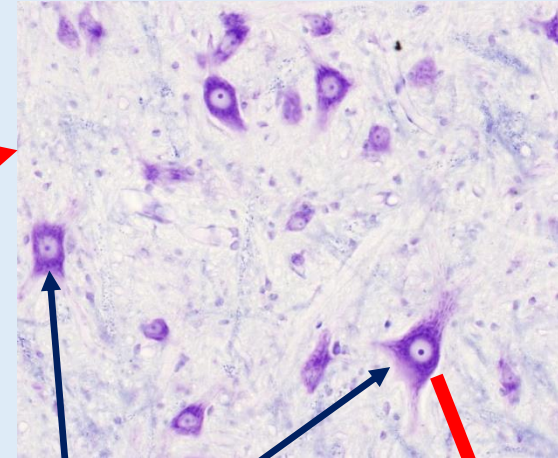
# 101. Rückenmark (Luxol-fastblue + Kresylviolett)

graue Substanz

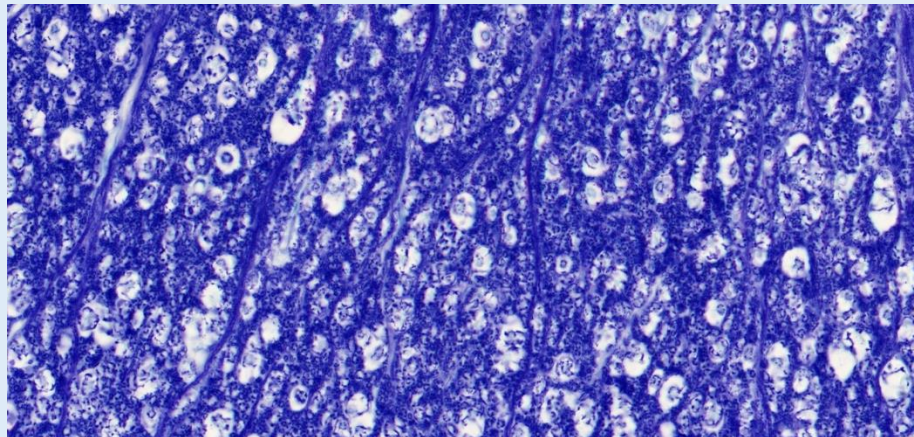
Kresylviolett



weisse Substanz



multipolare Neuronen  
(Alfa-Motoneuron)



Myelinscheide

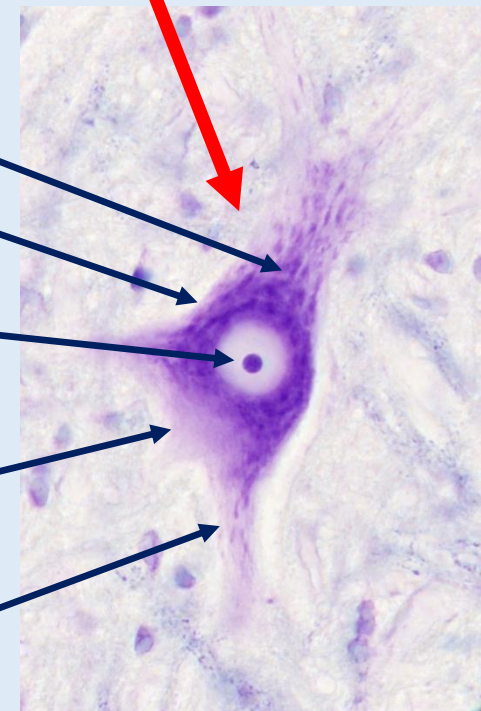
Nissl-Schollen

Perykarion

Zellkern  
(Nukleolus)

Axon  
(Axonhügel)

Dendrit

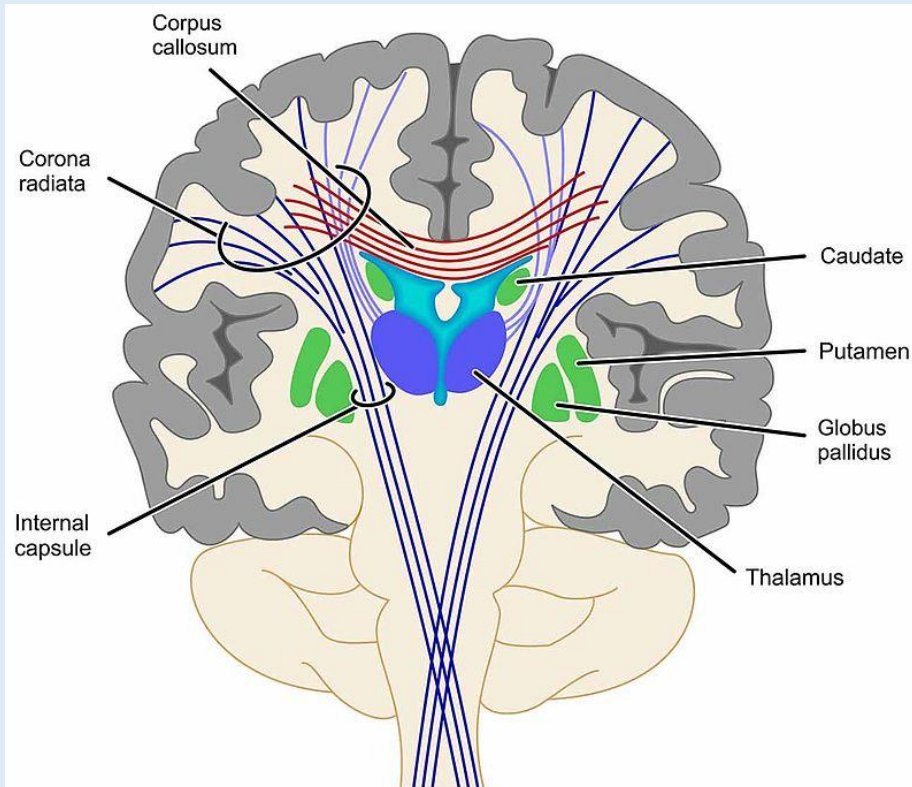
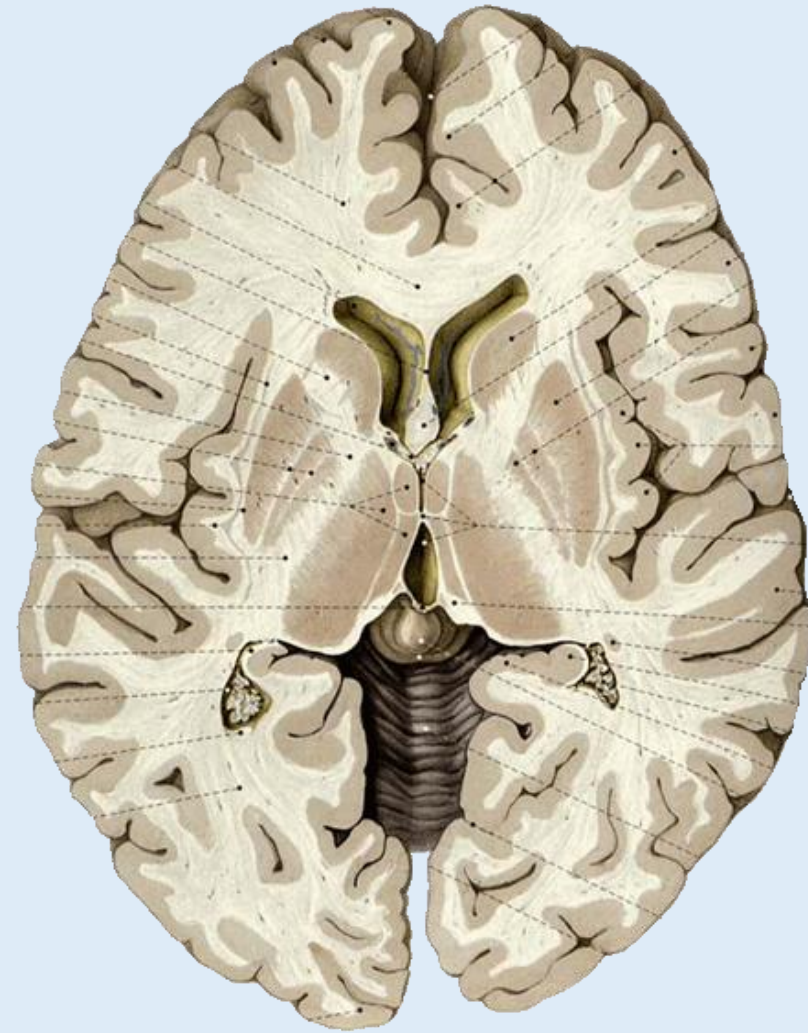




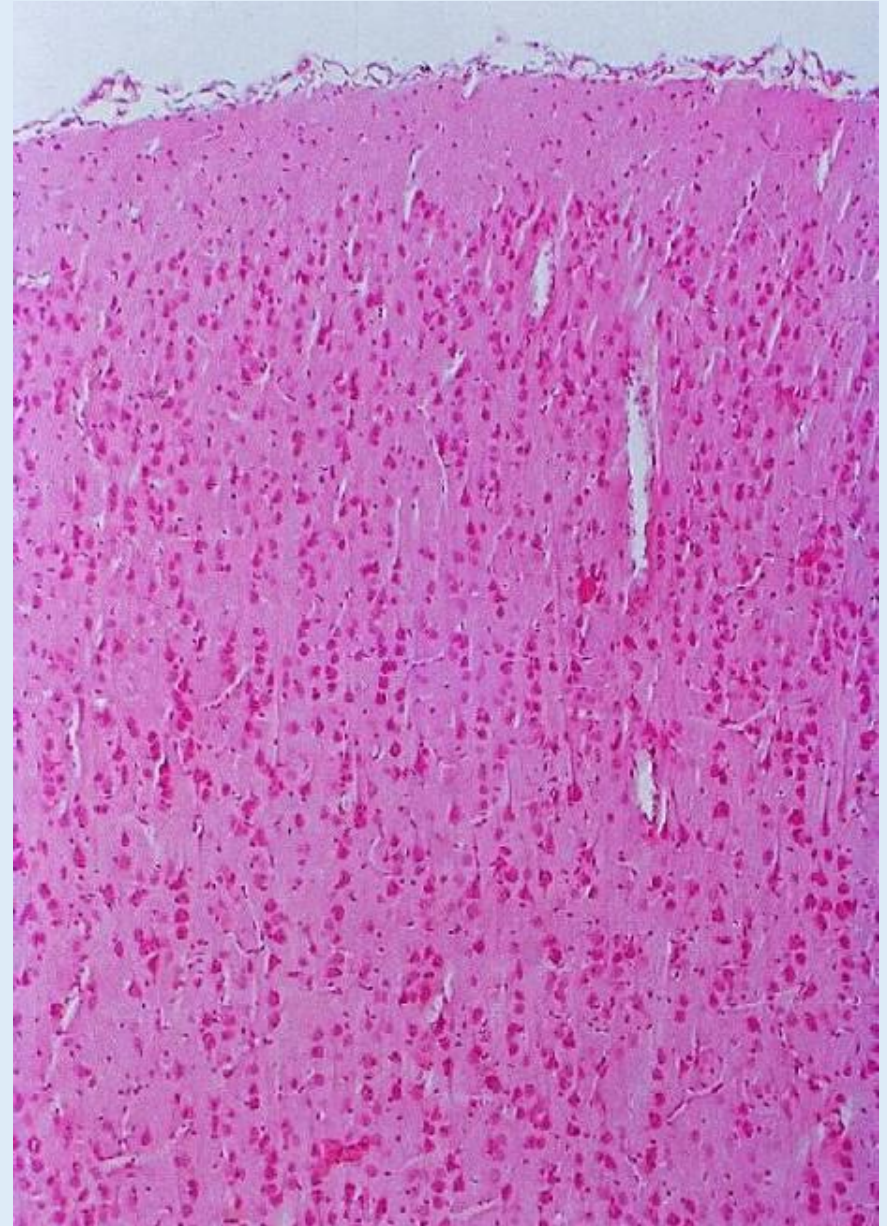
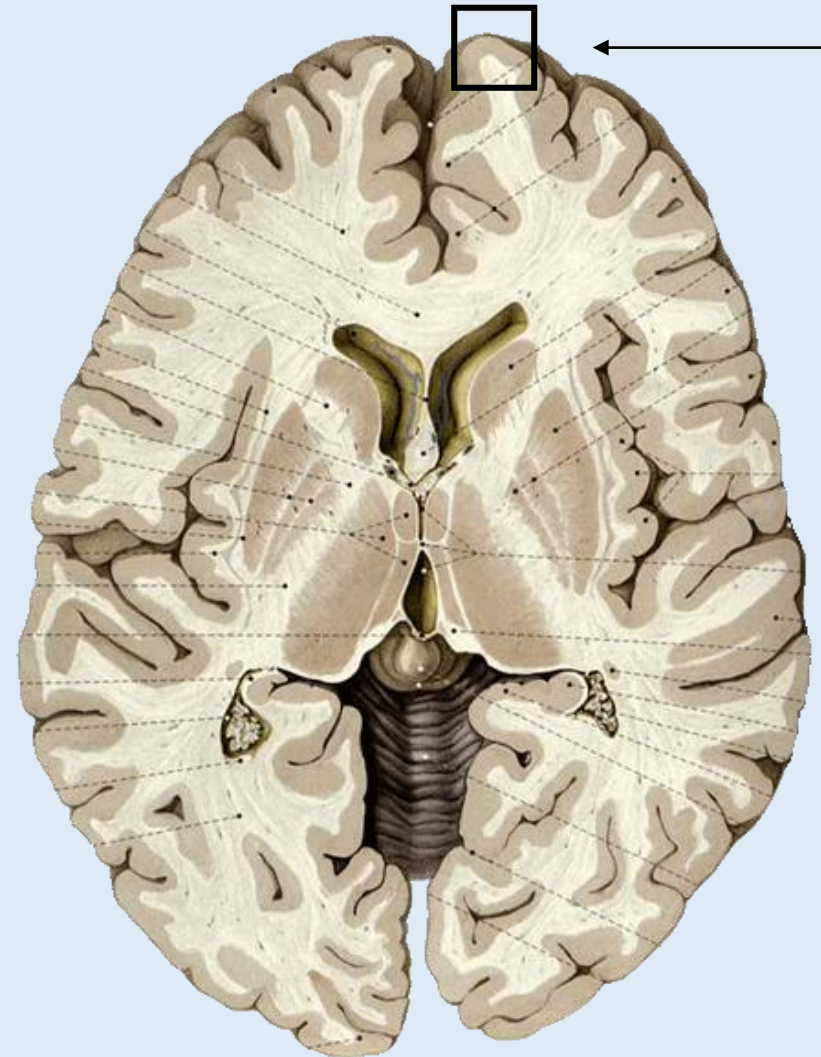
# Großhirn- Cerebrum

**Graue Substanz** (Cortex cerebri und Basalganglien):  
hauptsächlich Neuronen sowie Gliazellen

**Weisse Substanz:**  
Axonen sowie Gliazellen



# Schichten der Großhirnrinde

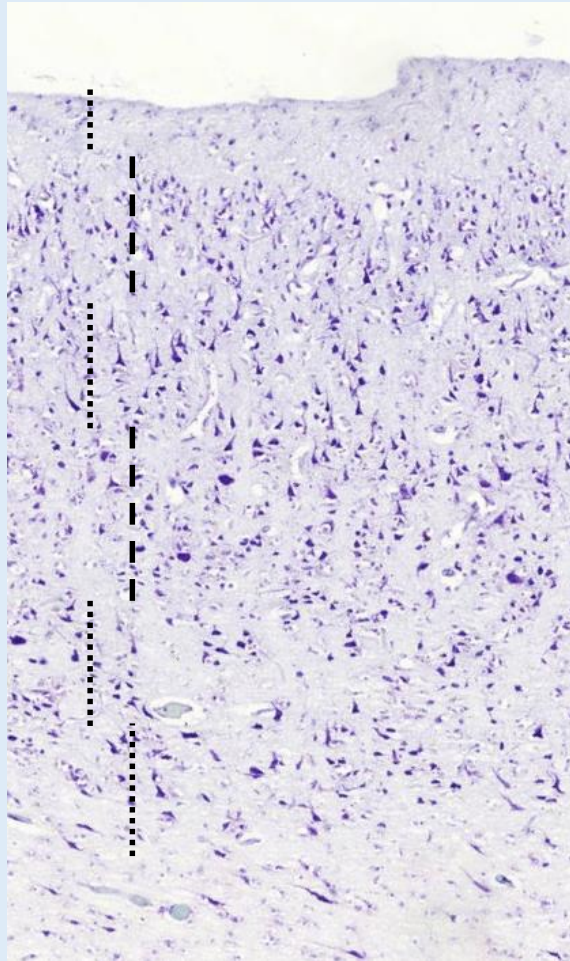
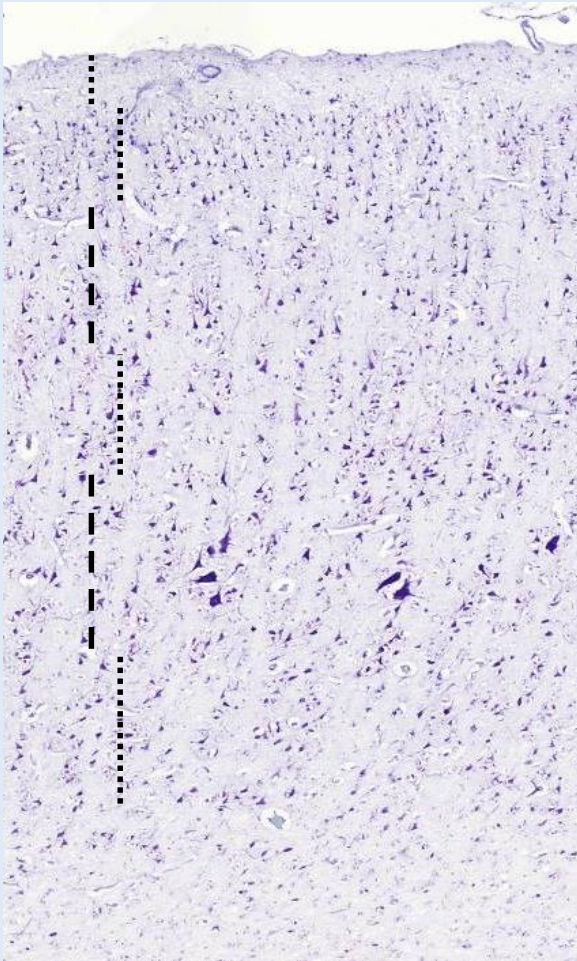




# Großhirnrinde – Kresylviolett (22.)

Gyrus praecentralis: agranulärer Kortex (3. und 5. Schichten sind breit)

Gyrus postcentralis: granulärer Kortex (2. und 4. Schichten sind breit)



Str. moleculare  
Nervenfasern, Astrozyten, Sternzellen

Str. granulosum externum  
Sternzellen, kleine Pyramidenzellen

Str. pyramidale externum  
mittelgroße Pyramidenzellen

Str. granulosum internum  
Sternzellen, kleine Pyramidenzellen

Str. pyramidale internum  
große Pyramidenzellen (**Betz**)

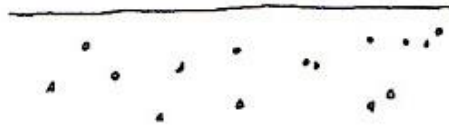
Str. multiforme  
Nervenzellen (unterschiedliche  
Größen und Formen)

Weißer Substanz  
Oligodendroglia-Zellen

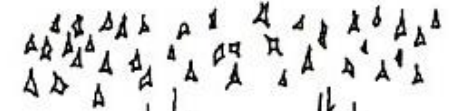
# Schichten der Großhirnrinde

Pia mater an der Oberfläche

1. str. moleculare



2. str. granulosum externum



3. str. pyramidale externum



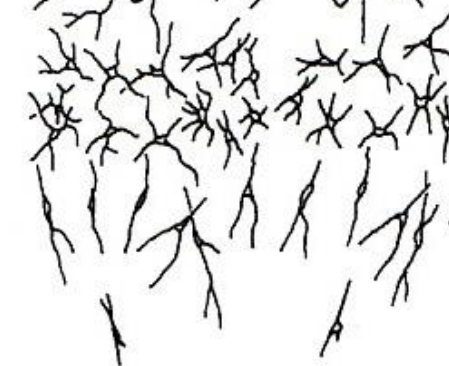
4. str. granulosum internum



5. str. pyramidale internum



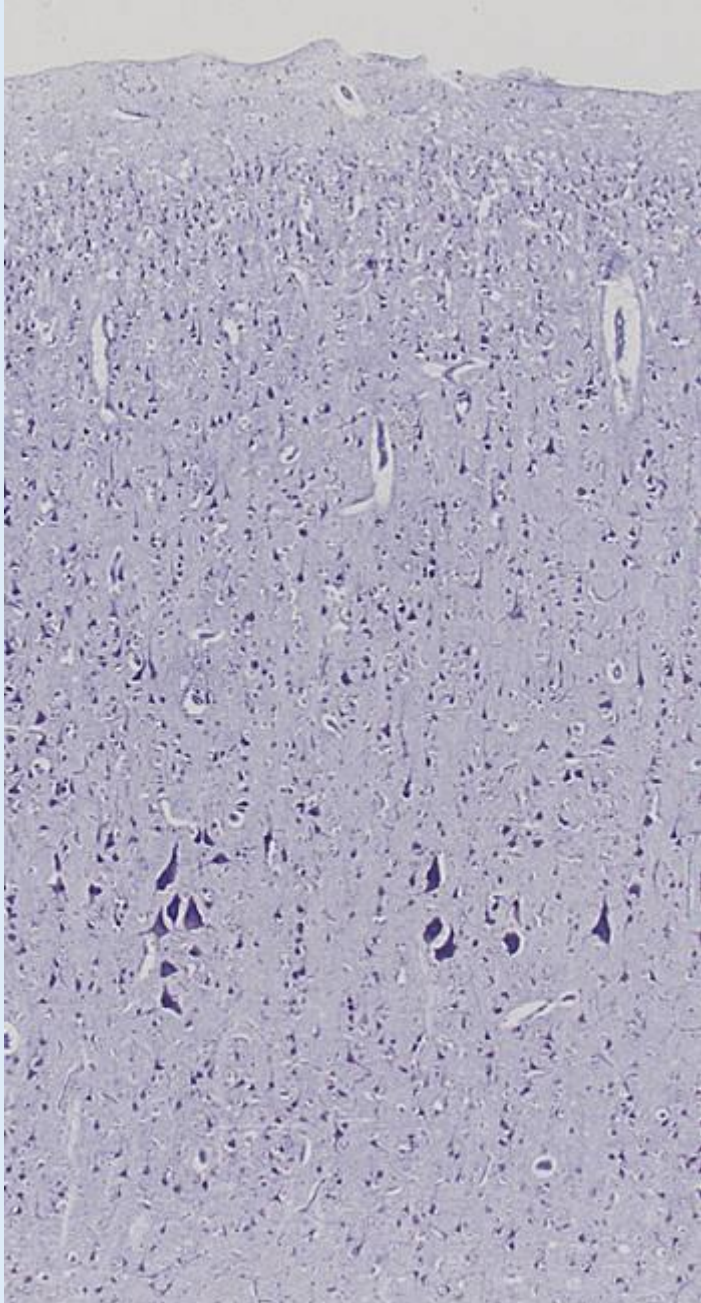
6. str. multiforme



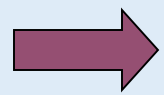
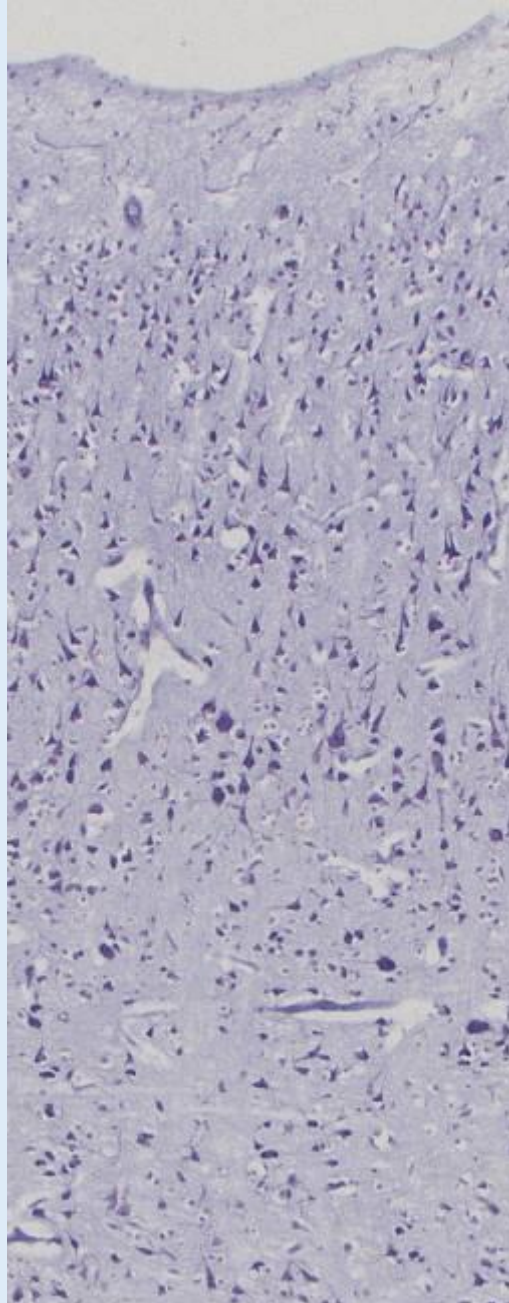
Medulla: afferente und efferente Fasern sowie Gliazellen



Motorische Rinde



Sensorische Rinde



In der motorischen Rinde sehr große Pyramidenzellen in der V. Schicht.  
→ **Betz-Riesenzellen**



# Pyramidenzellen

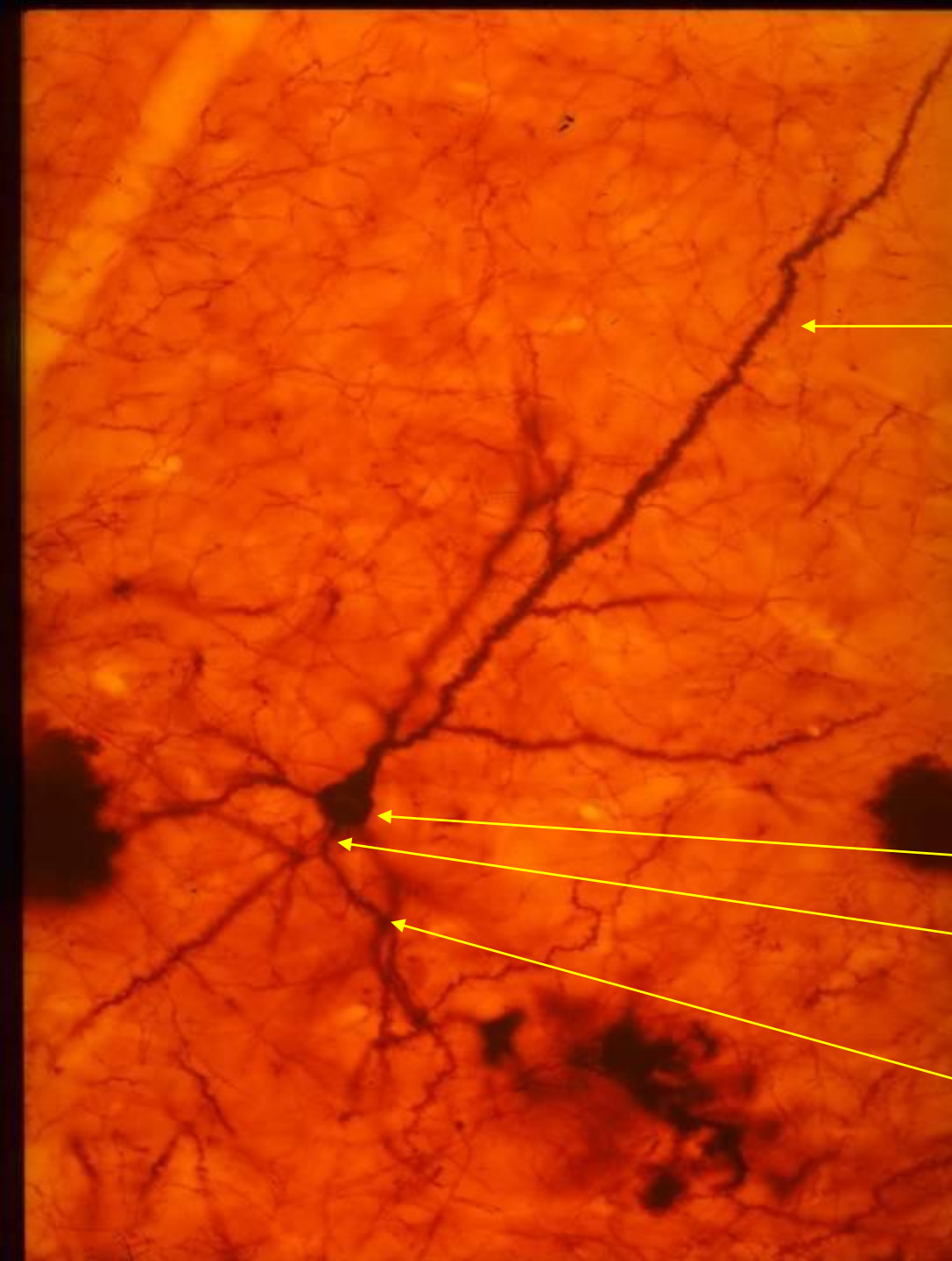
**Spitzendendrit**

zeigt Richtung Oberfläche

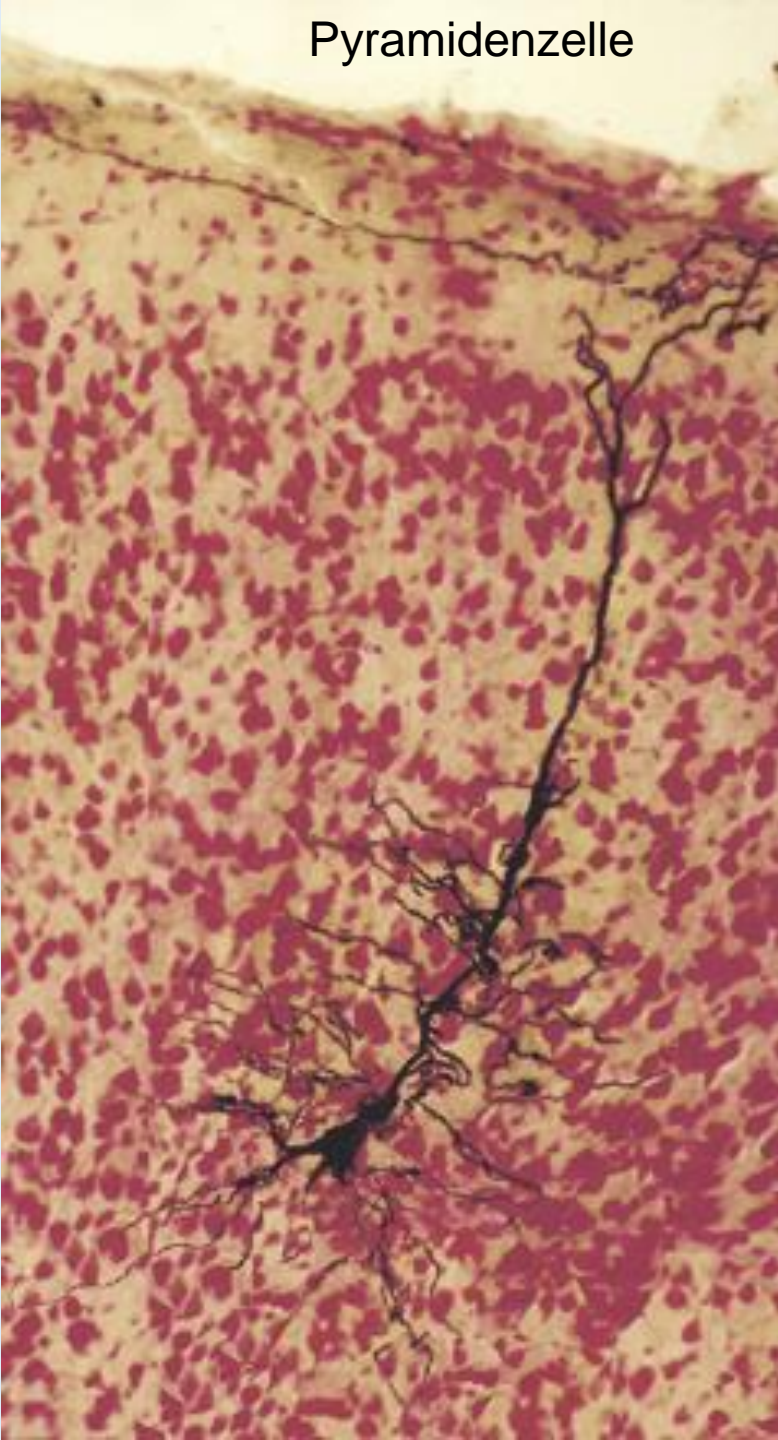
**Perikaryon**

**Axon-Hügel**

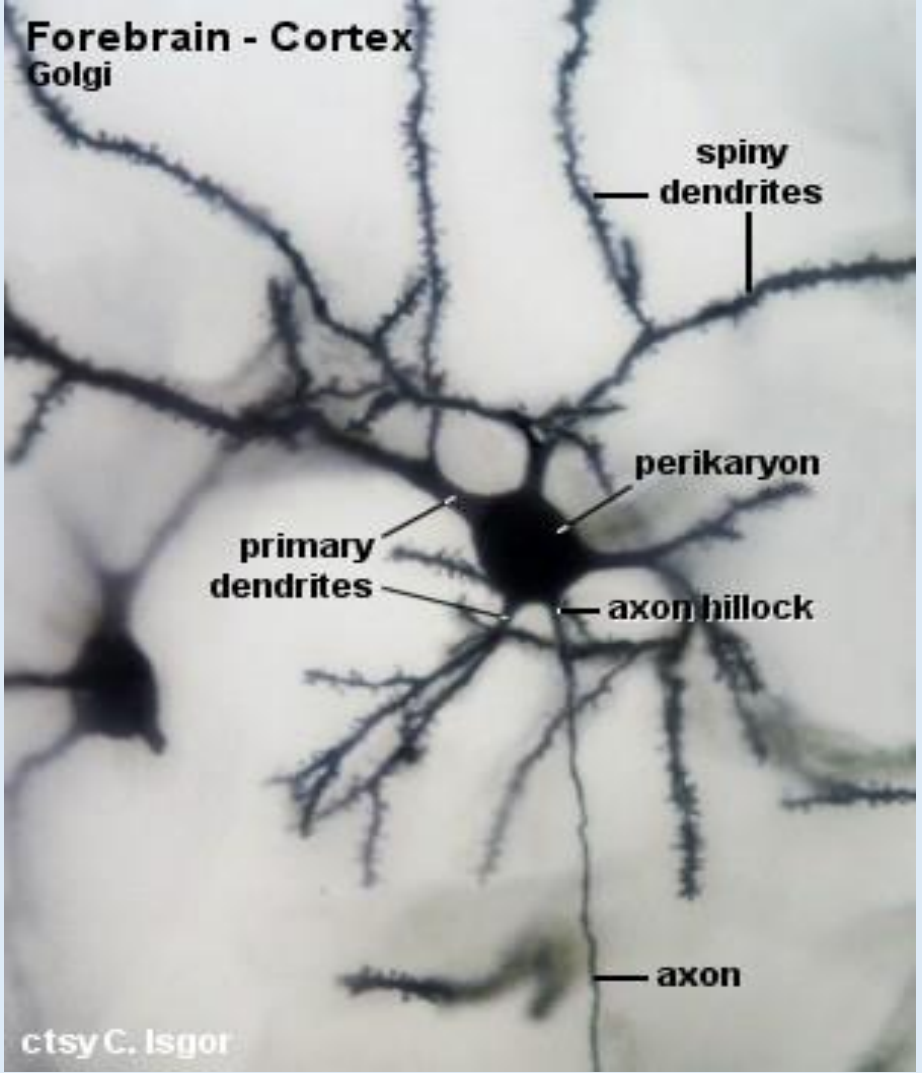
**Basale Dendriten**



Pyramidenzelle

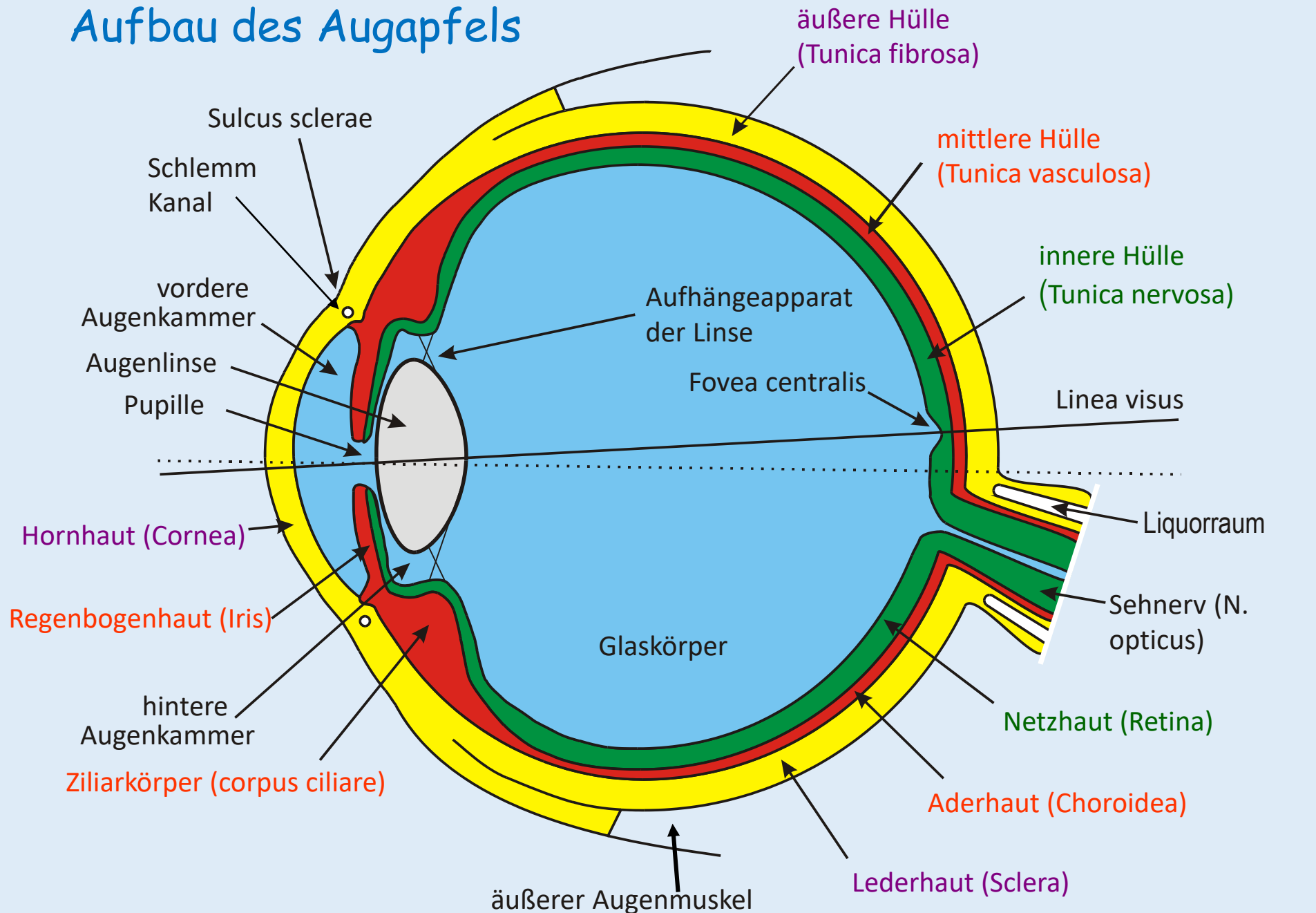


Forebrain - Cortex  
Golgi

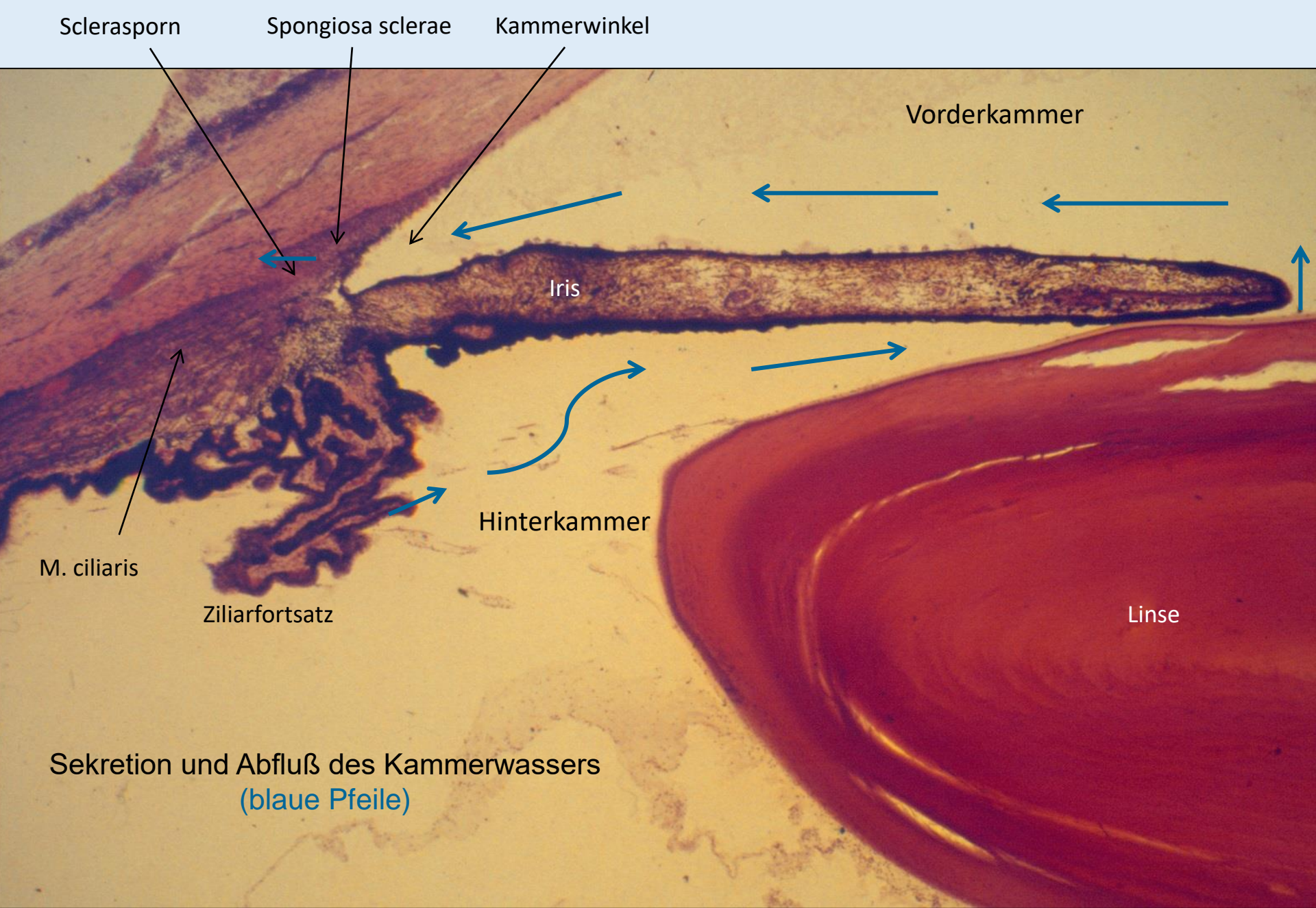




# Aufbau des Augapfels



Aus der Vorlesung von Herrn Professor Pál Röhlich



Sekretion und Abfluß des Kammerwassers  
(blaue Pfeile)

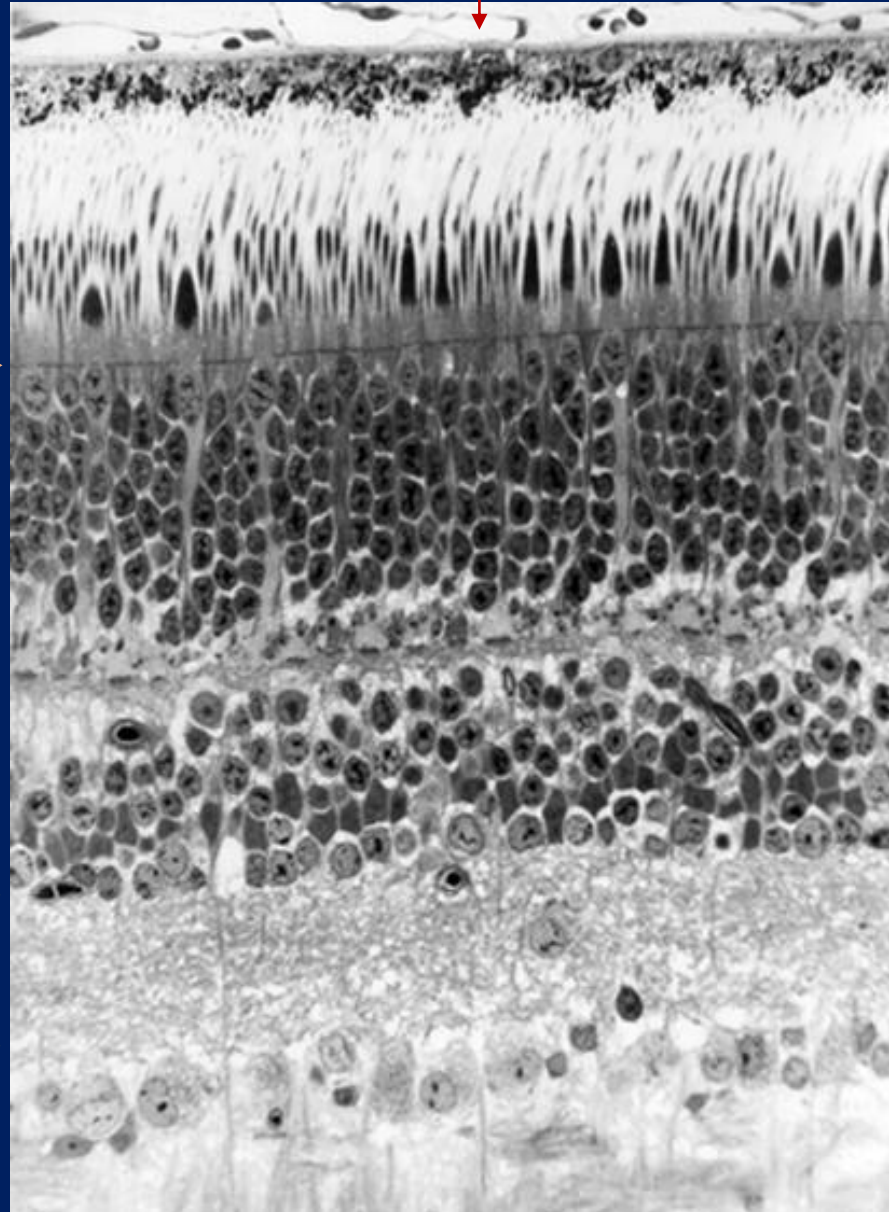


# Schichten der Retina

Aus der Vorlesung von Herrn Professor Pál Röhlich

choriocapillaris

choroidea



1. Pigmentepithel  
str. pigmentosum retinae

2. Stäbchen und  
Zapfen bacilli et coni

3. Äußere Grenzmembran  
m. limitans externa

4. Äußere Kernschicht  
str. granulosum ext.

5. äußere synaptische  
Schicht str. plexiforme ext.

6. Innere Kernschicht  
str. granulosum int.

7. Innere synaptische  
Schicht str. plexiforme int.

8. Ganglienzellen  
str. ganglionare

9. Schicht der Optikus-  
fasern str. neurofibrarum

Außensegmente der  
Photorezeptorzellen

Innensegmente der  
Photorezeptorzellen

Perikaryen der  
Photorezeptoren

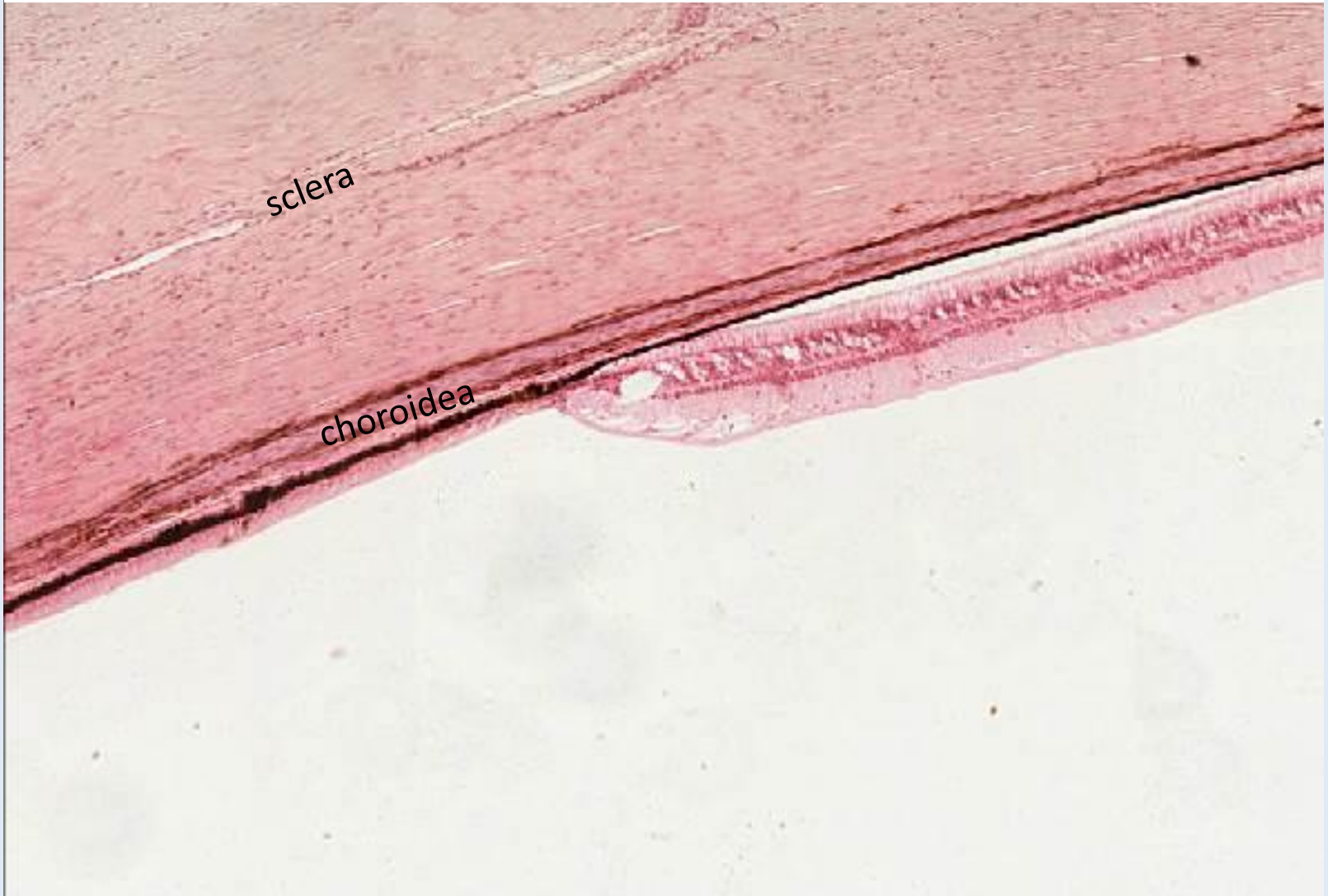
Perikaryen der bipolaren,  
horizontalen, amakrinen  
und Müller-Zellen

Perikaryen der  
Ganglienzellen

10. Innere Grenzmembran (nicht sichtbar)

Glaskörper

# Ora serrata





# Ausnahme

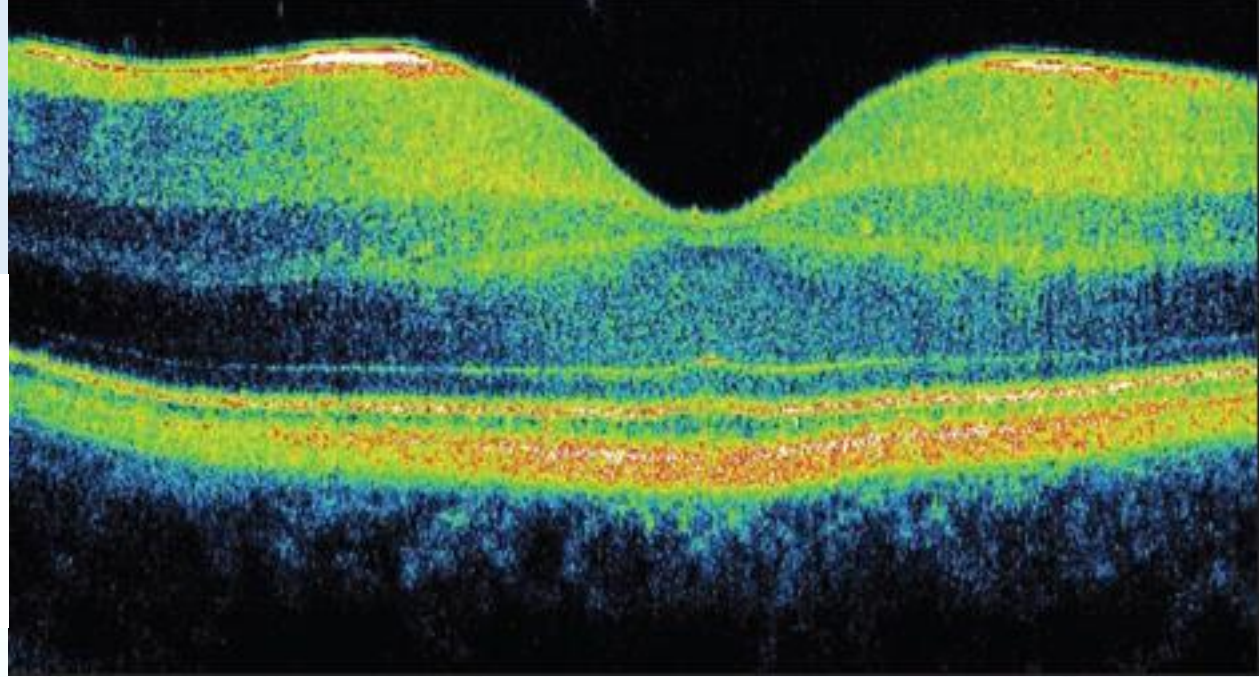
- Discus opticus  
(Papilla nervi optici,  
Austrittsstelle des Nervus opticus)





# Ausnahme

- Macula lutea  
(Fovea centralis:  
nur Zapfenzellen)





# Blutversorgung

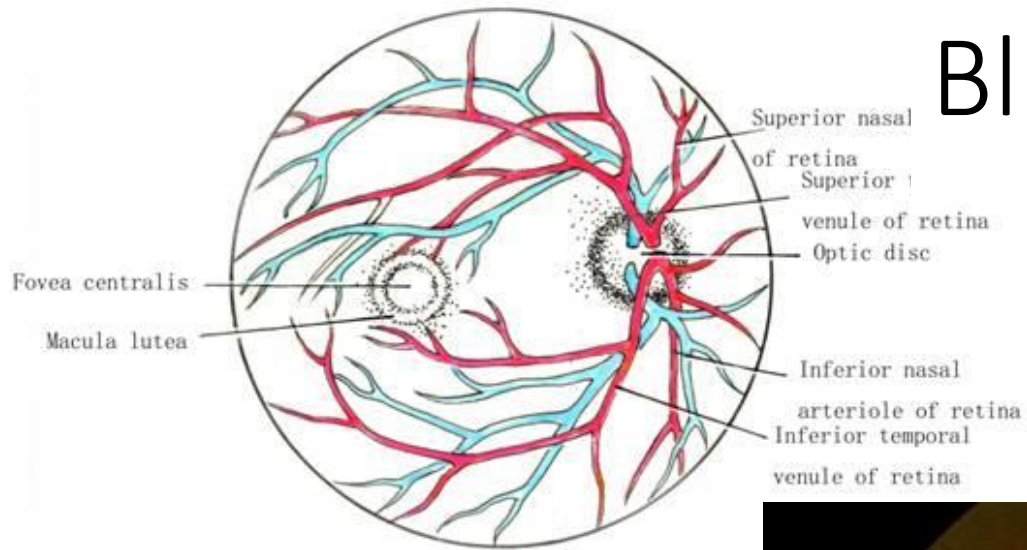
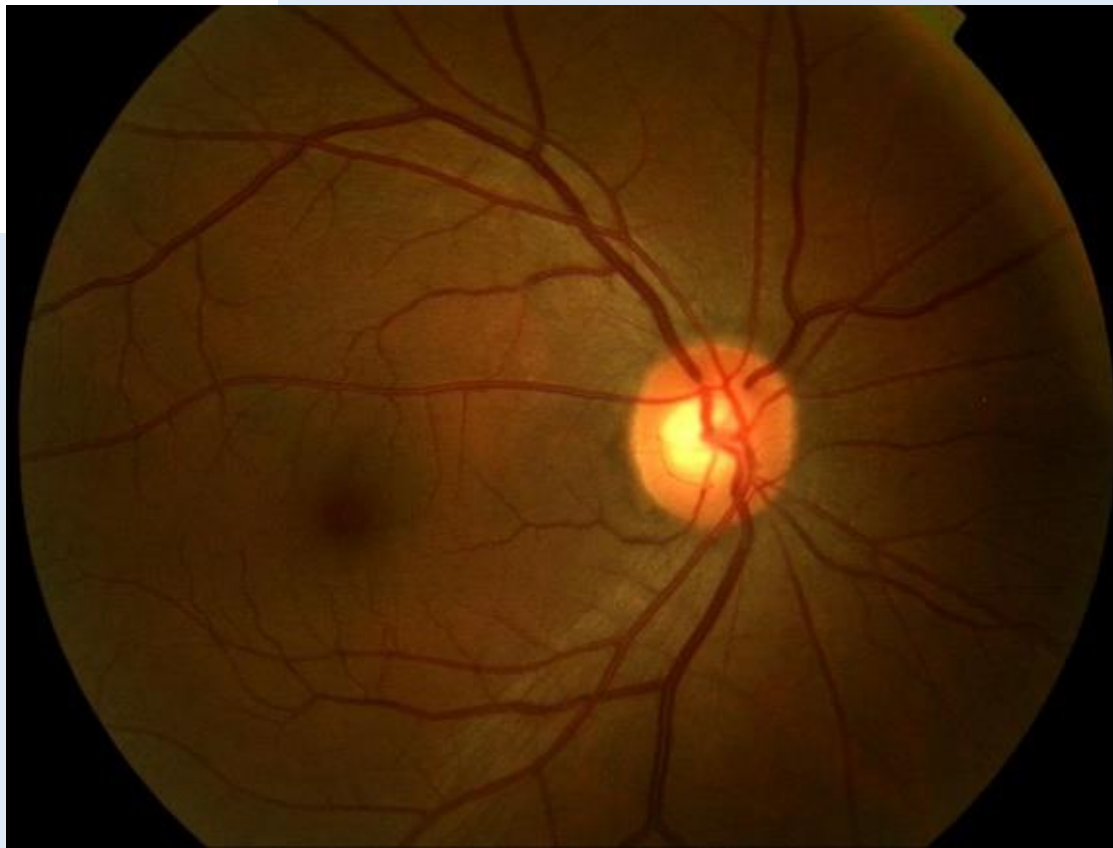
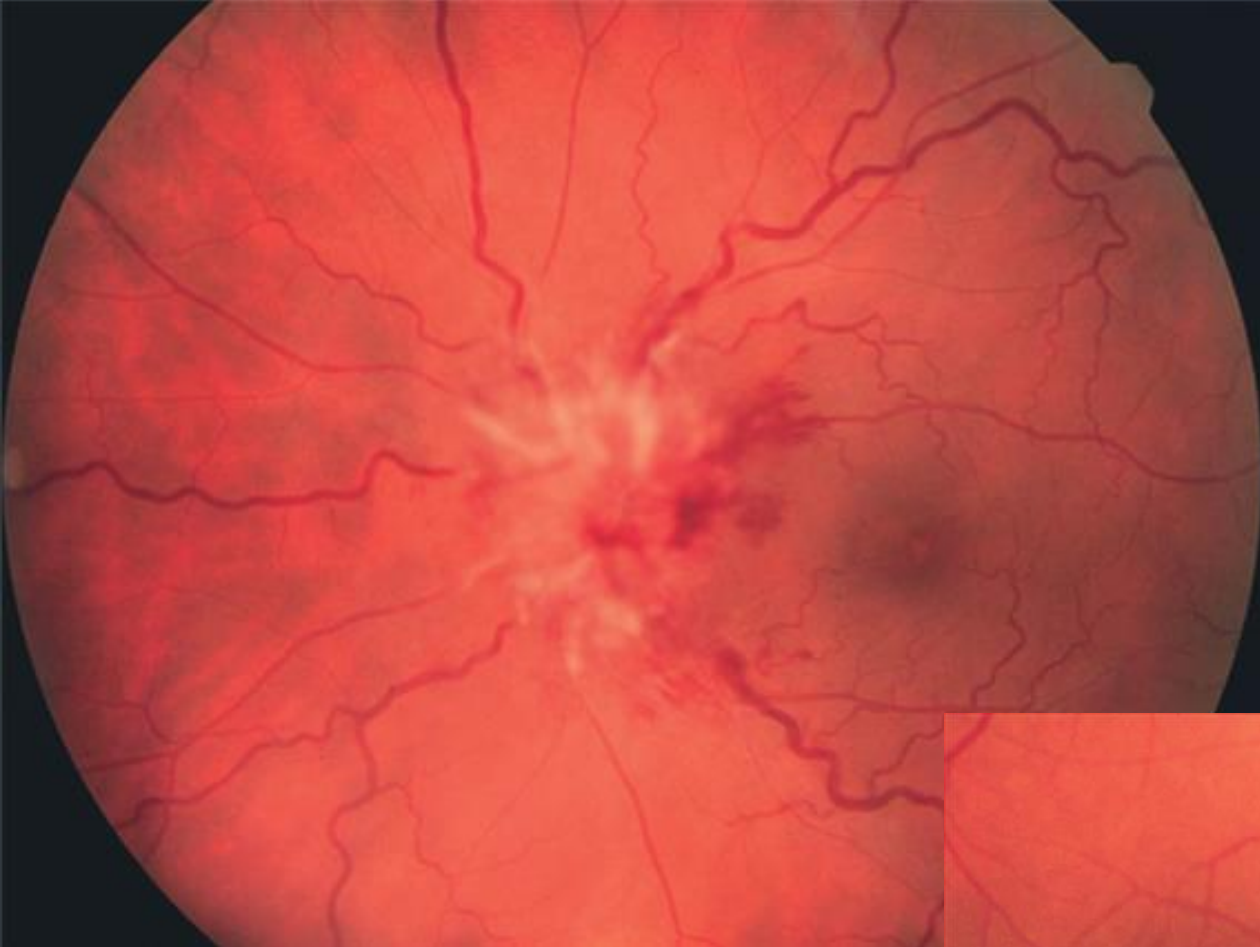


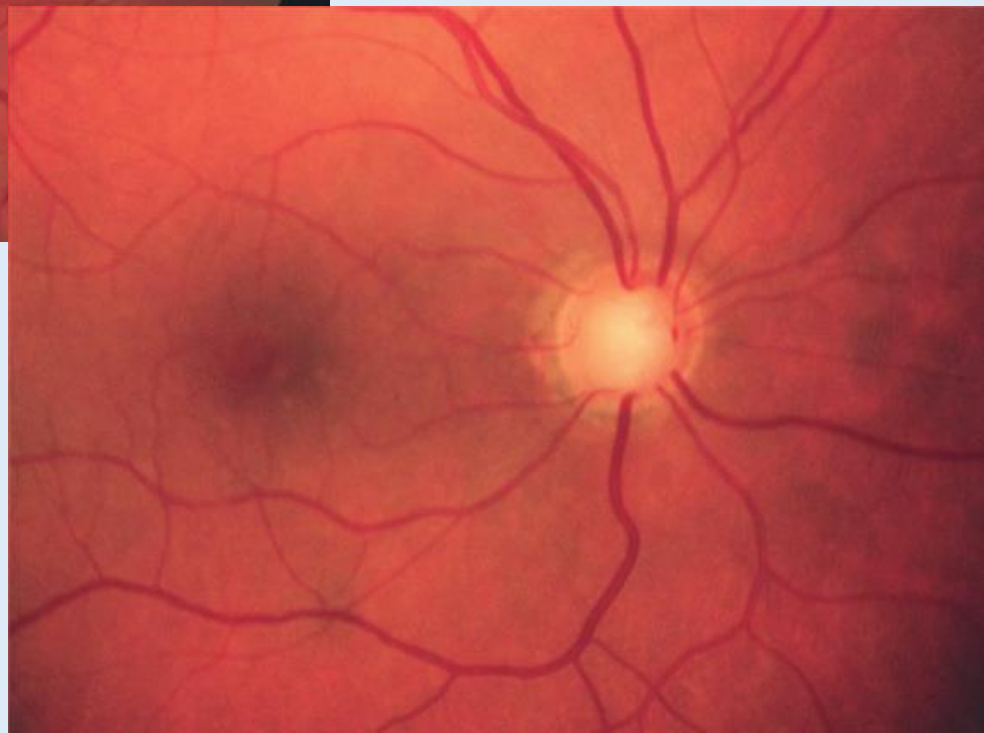
Fig. Fundus of the eyeball

A. centralis retinae





Untersuchung



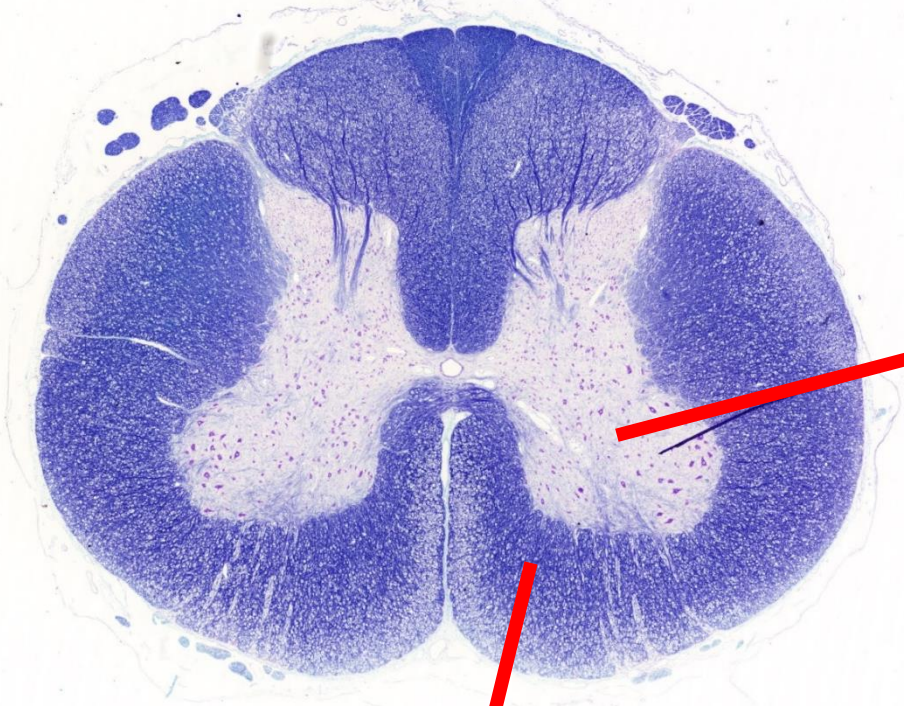


**Präparate und Strukturen zu erkennen**

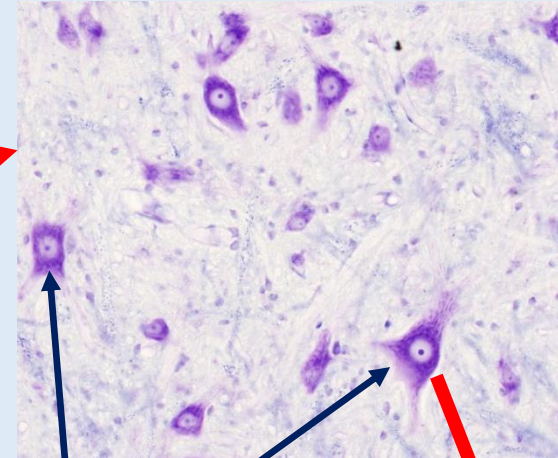
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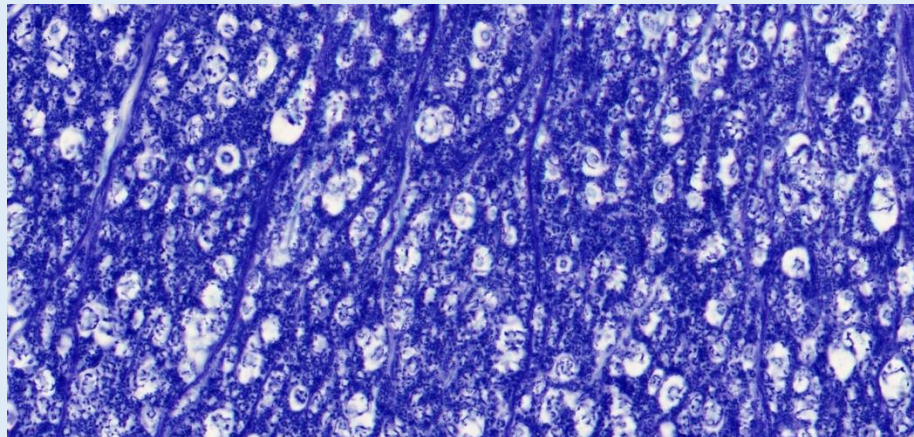
Kresylviolett



weisse Substanz



multipolare Neuronen  
(Alfa-Motoneuron)



Myelinscheide

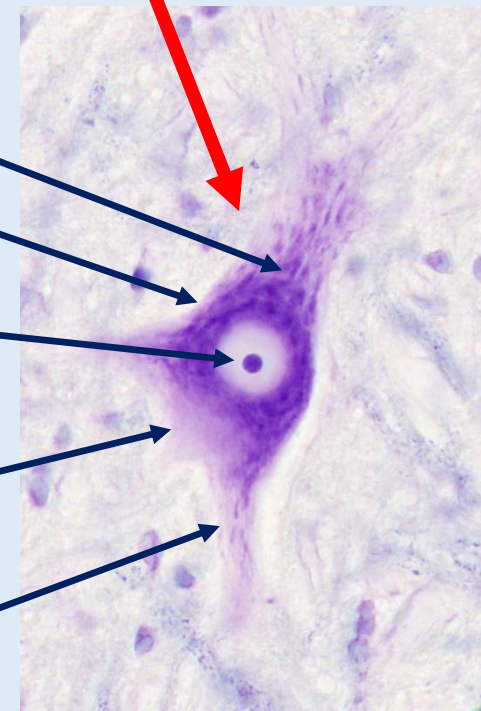
Nissl-Schollen

Perykarion

Zellkern  
(Nukleolus)

Axon  
(Axonhügel)

Dendrit



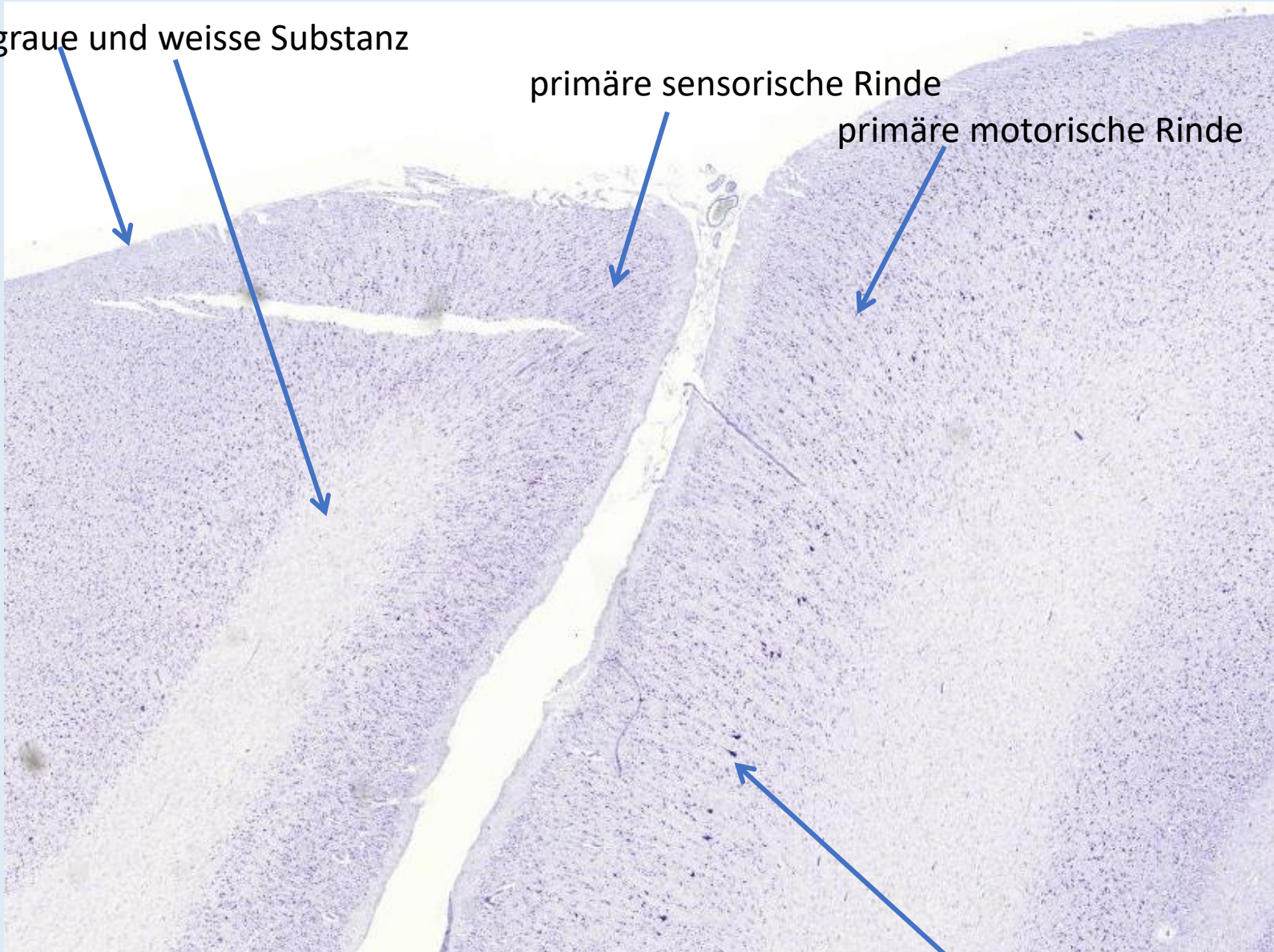


## 22.Cortex cerebri

graue und weisse Substanz

primäre sensorische Rinde

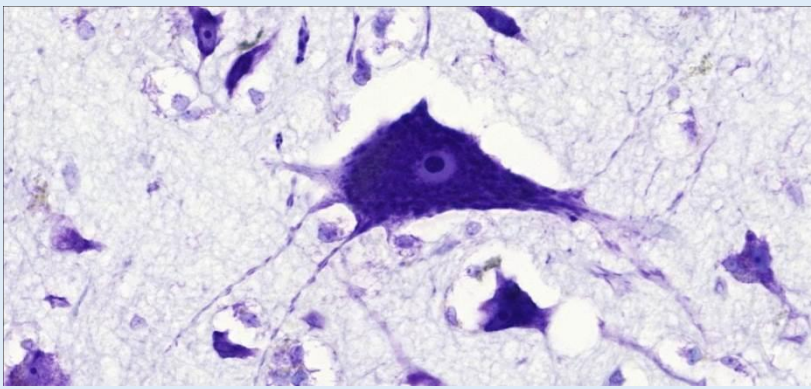
primäre motorische Rinde



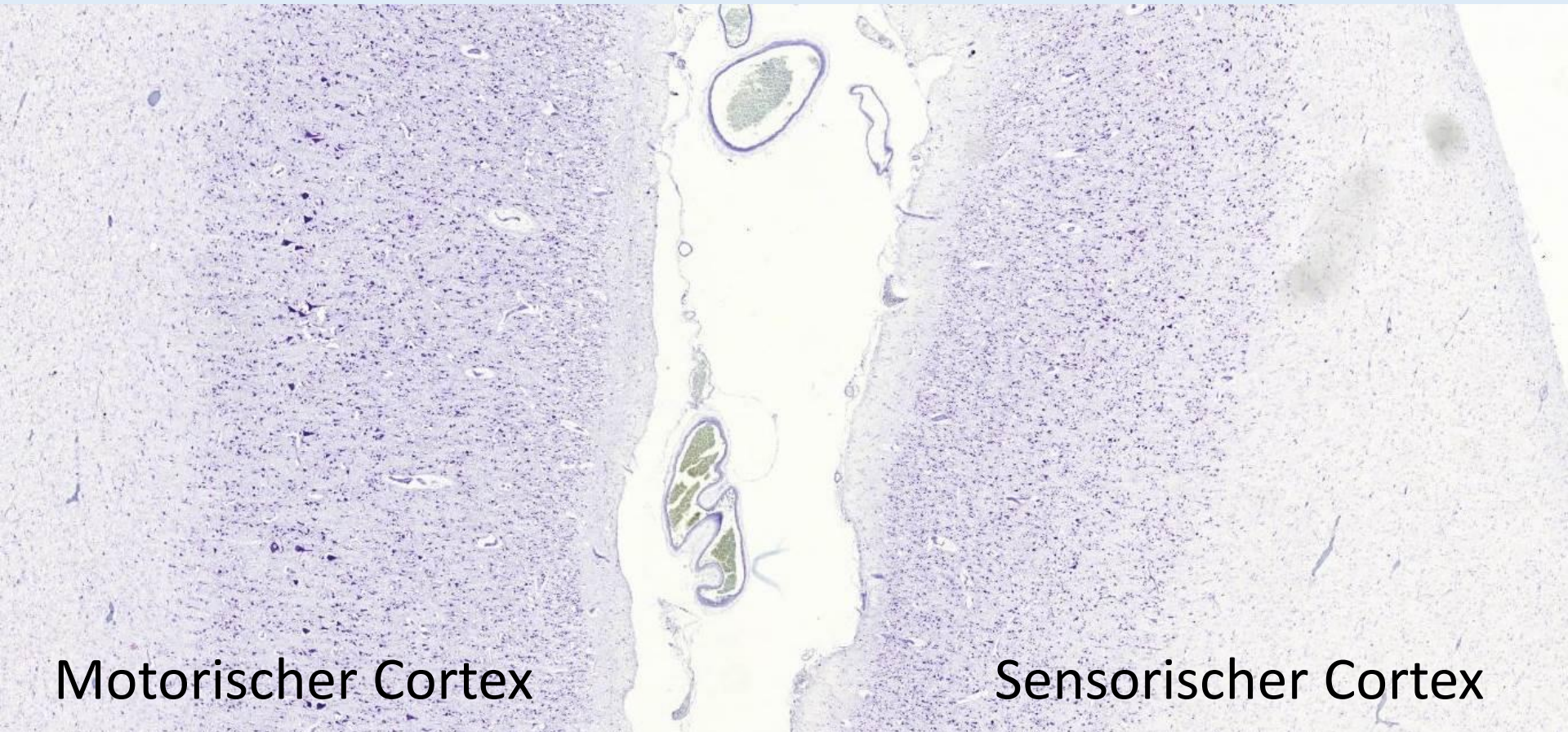
Betz-Riesenzellen  
Stratum pyramidale internum



## 22. Cortex cerebri



Pyramidenzelle

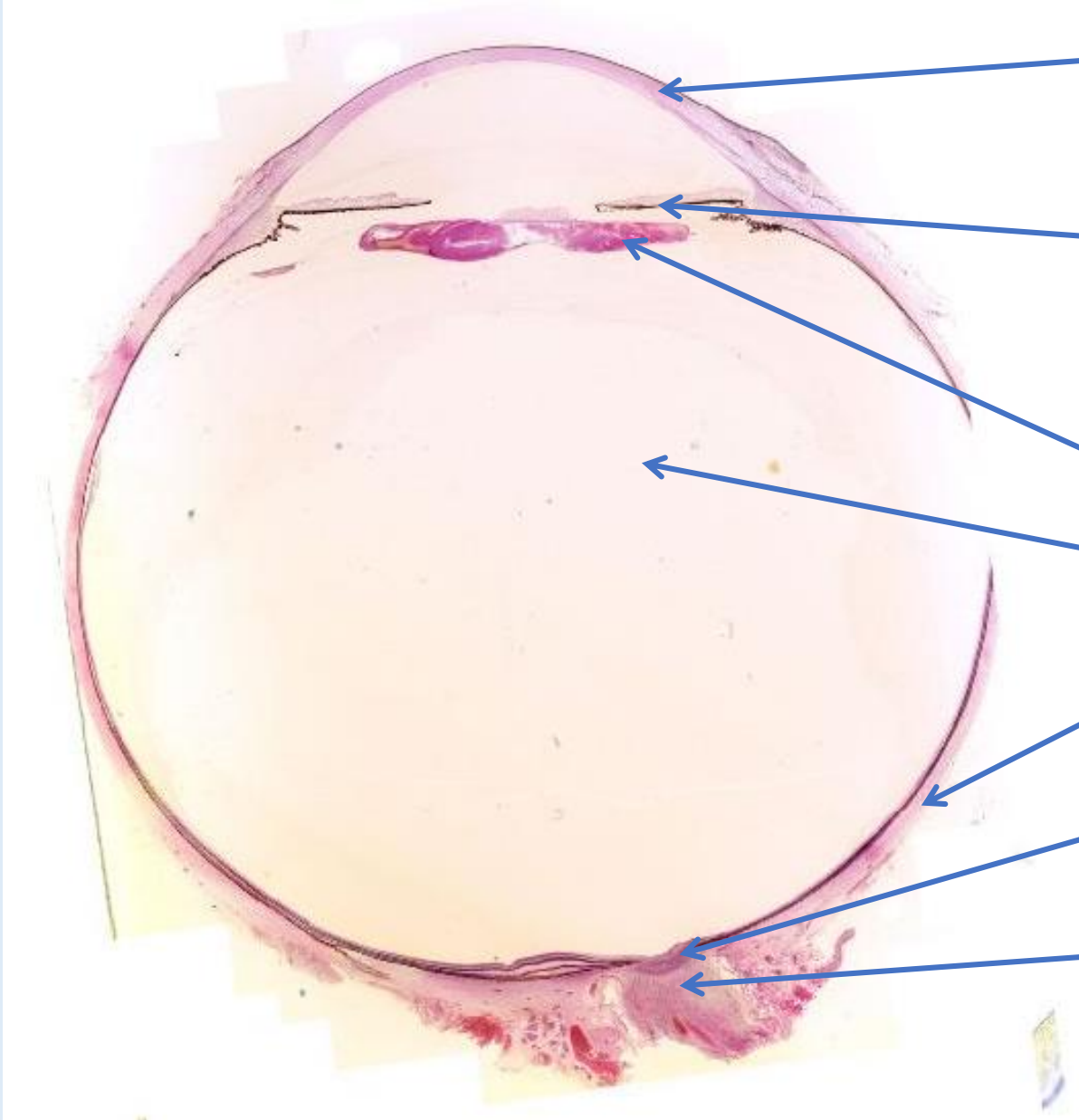


Motorischer Cortex

Sensorischer Cortex



# 29. Augapfel HE



Cornea

Iris

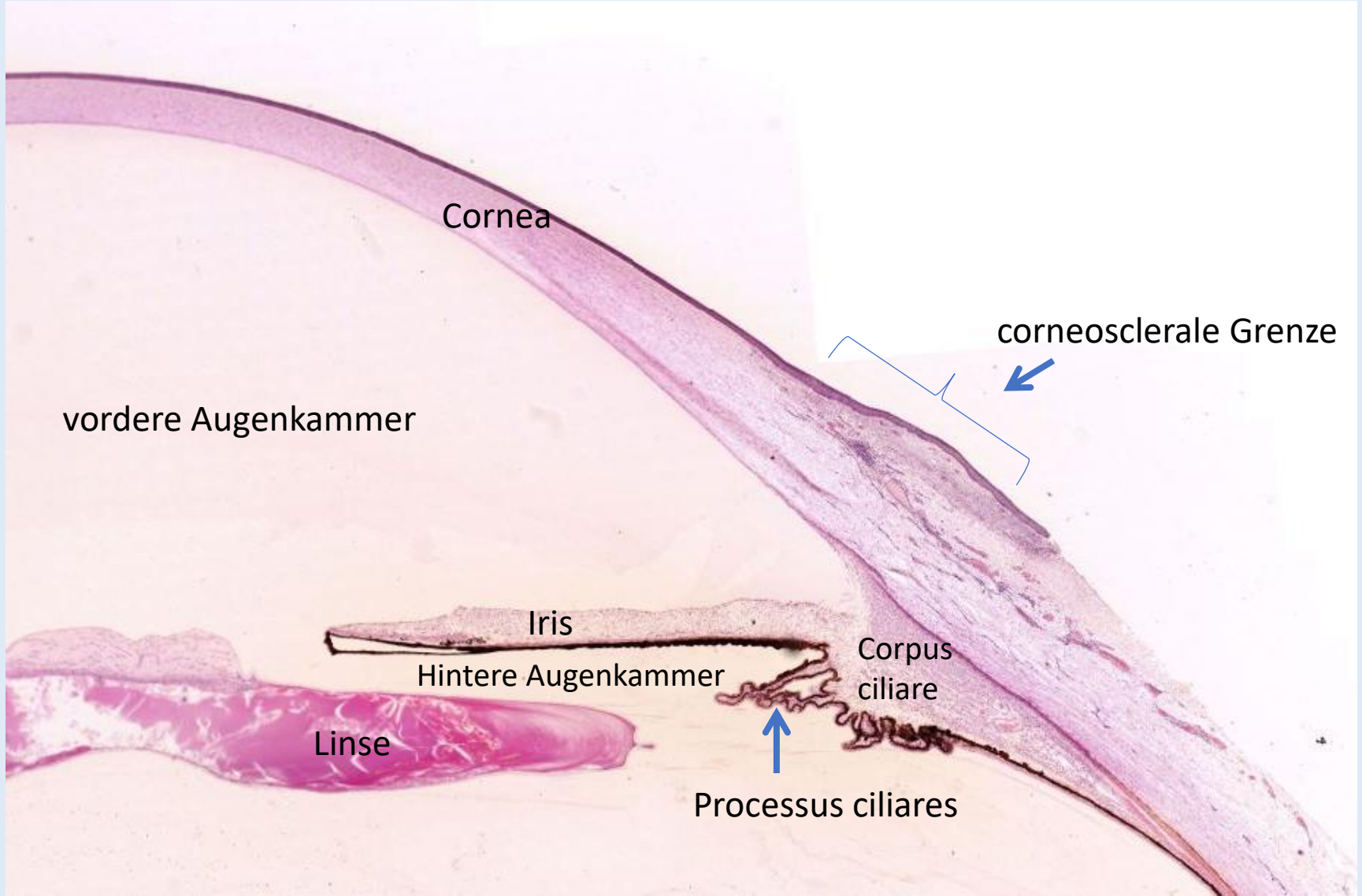
Linse

Glaskörper

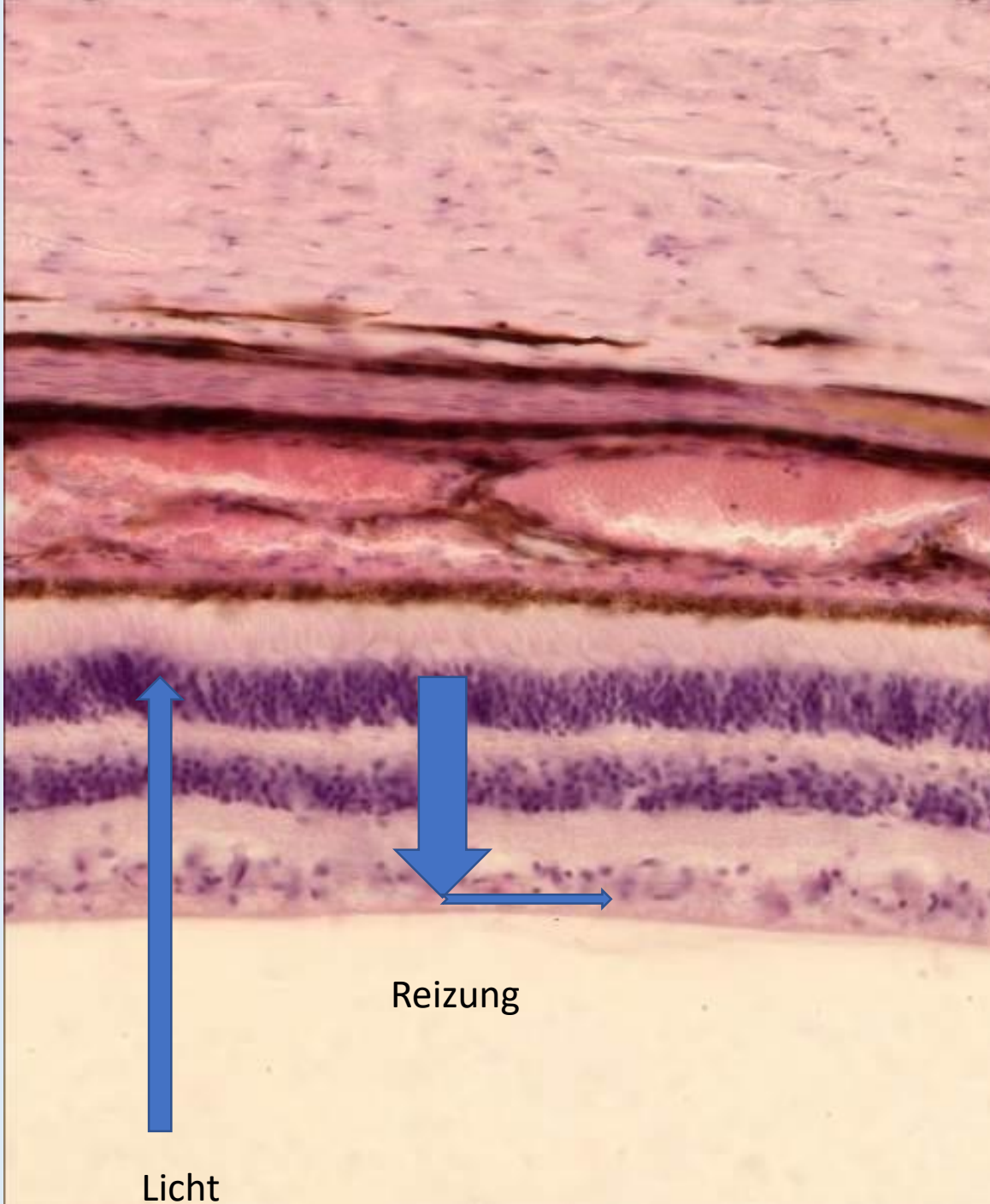
Sclera

Papilla nervi optici

Nervus opticus







Sclera

Choroidea

Pigmentepithel

Stäbchen- und Zapfenzellen

Stratum granulosum externum

Stratum granulosum internum

Stratum ganglionare

Licht

Reizung