



Nervová tkáň

- Neurony

Dle počtu výběžků, dle délky axonu, dle mediátorů, dle zapojení/funkce, dle velikosti

- Gliové buňky

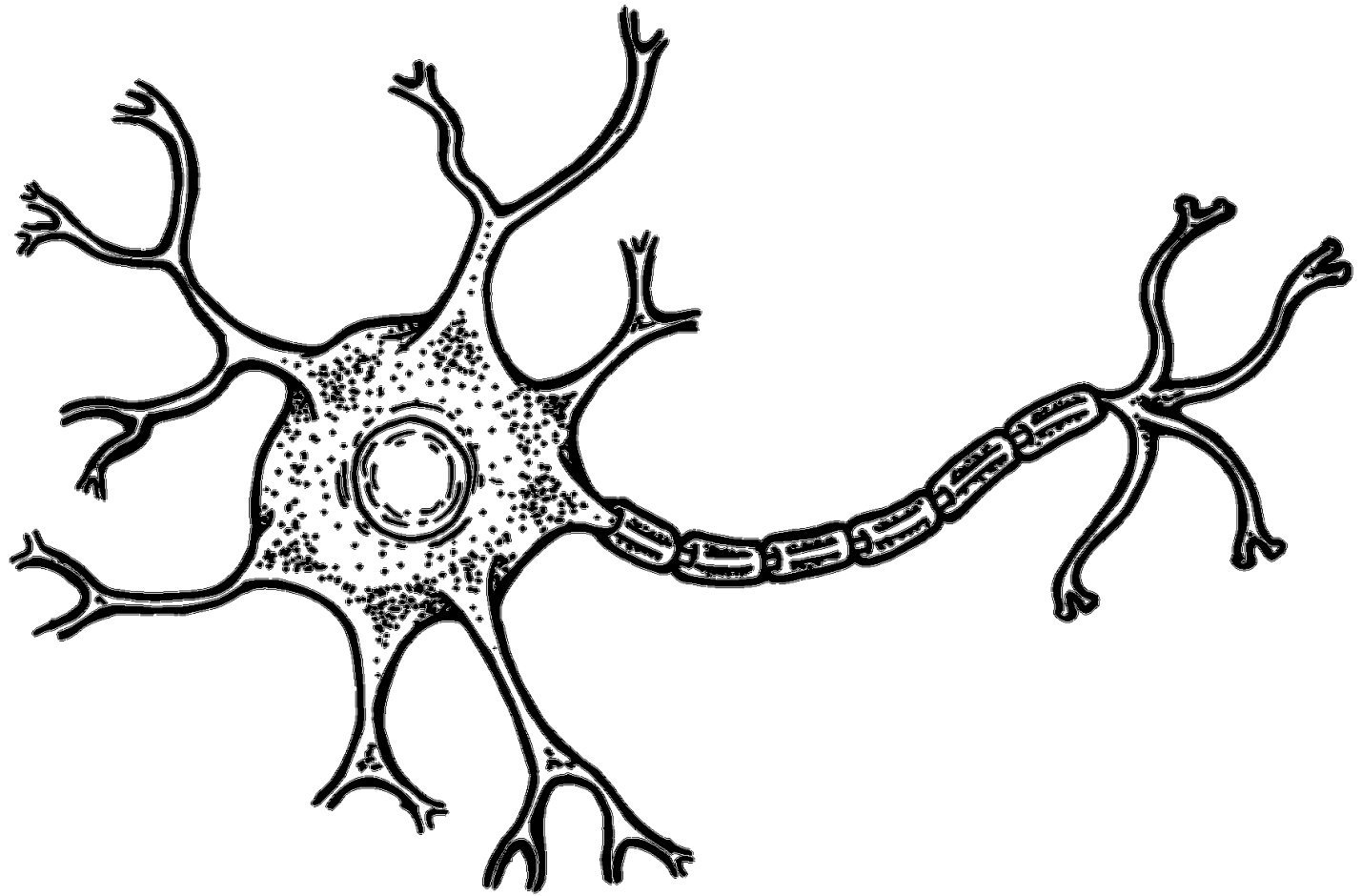
CNS: oligodendrocyty, astrocyty, ependymové buňky, mikroglie

PNS: satelitové (plášťové) buňky, Schwannovy buňky

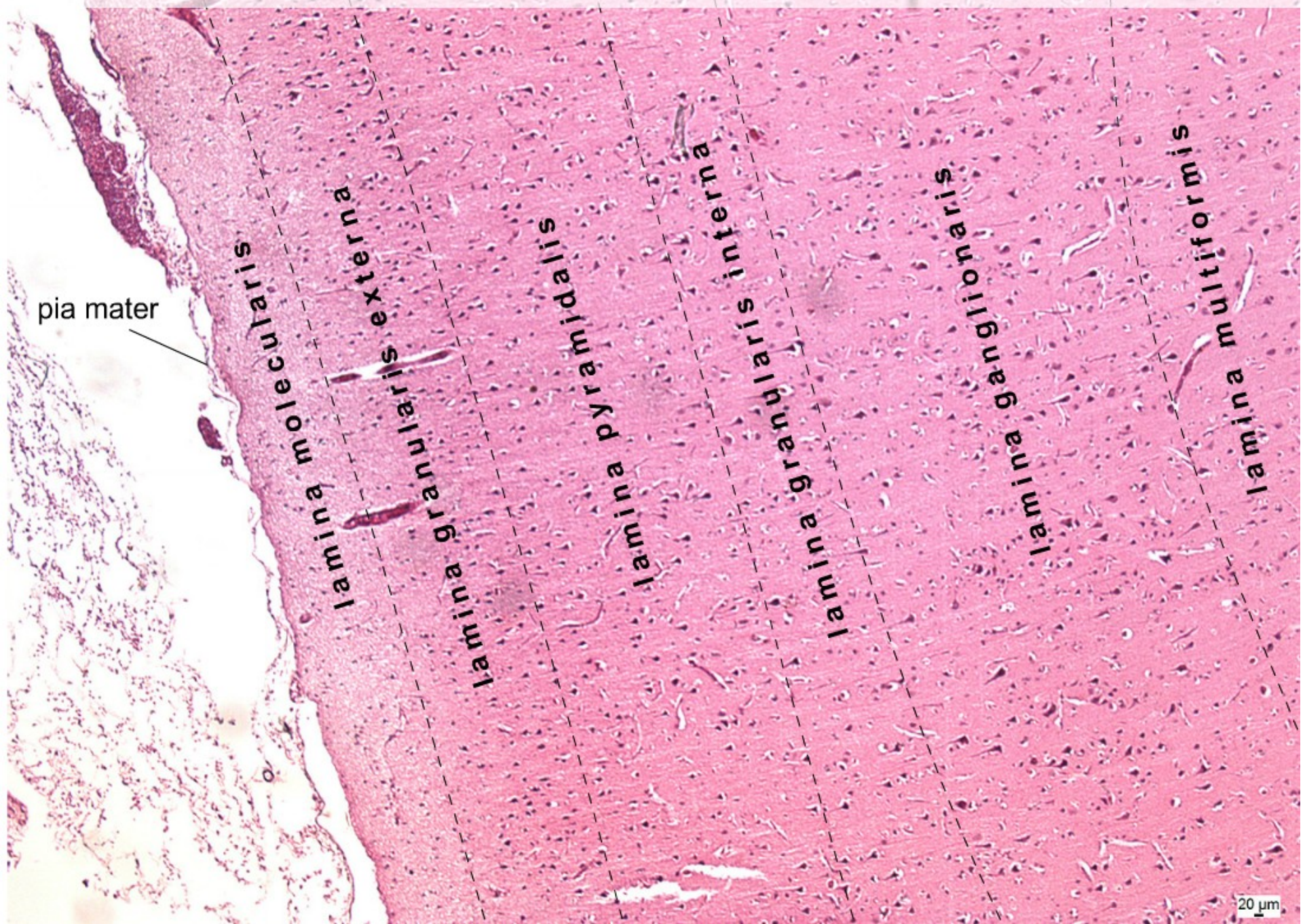
Synapse

Myelinizace

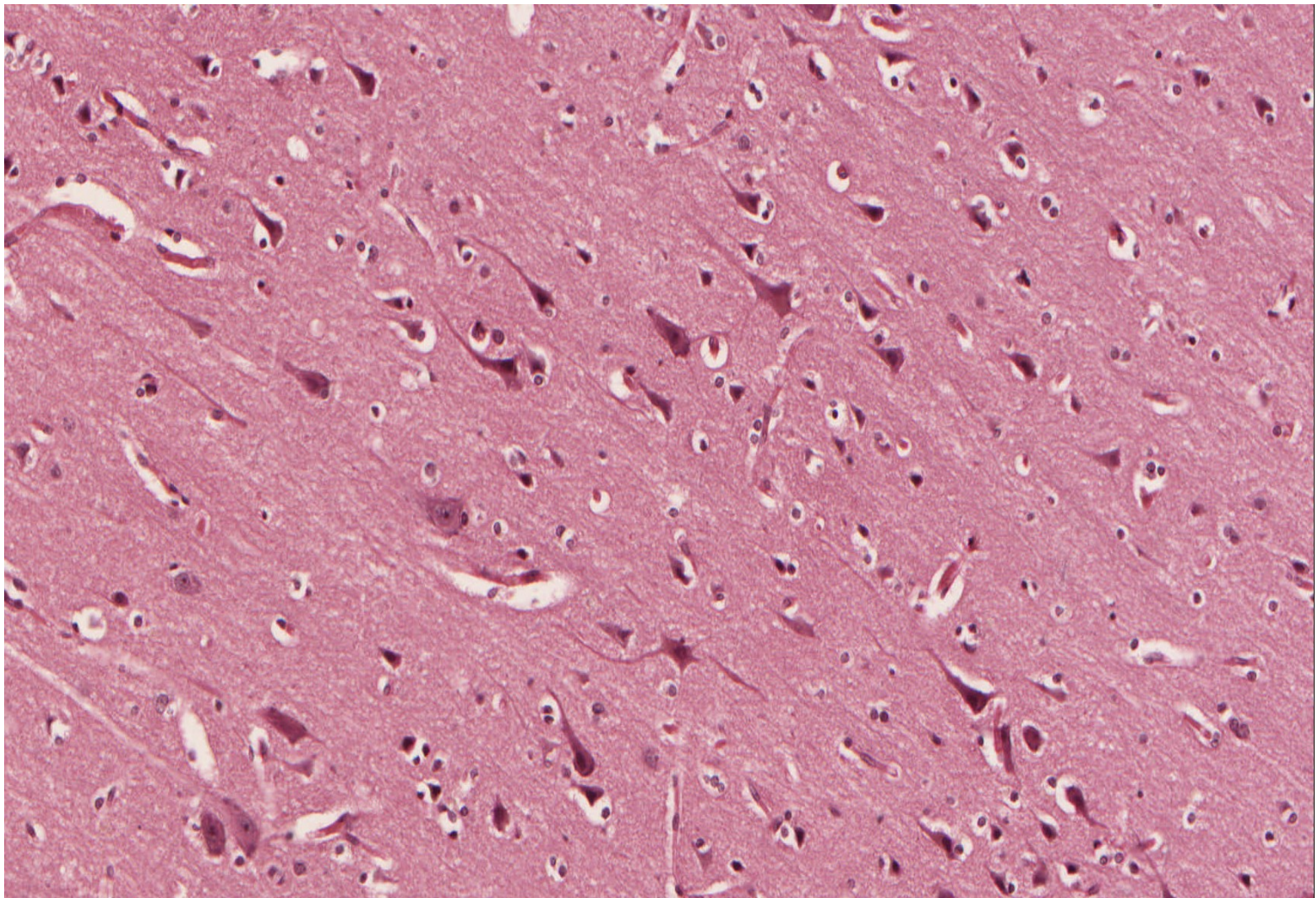
HEB



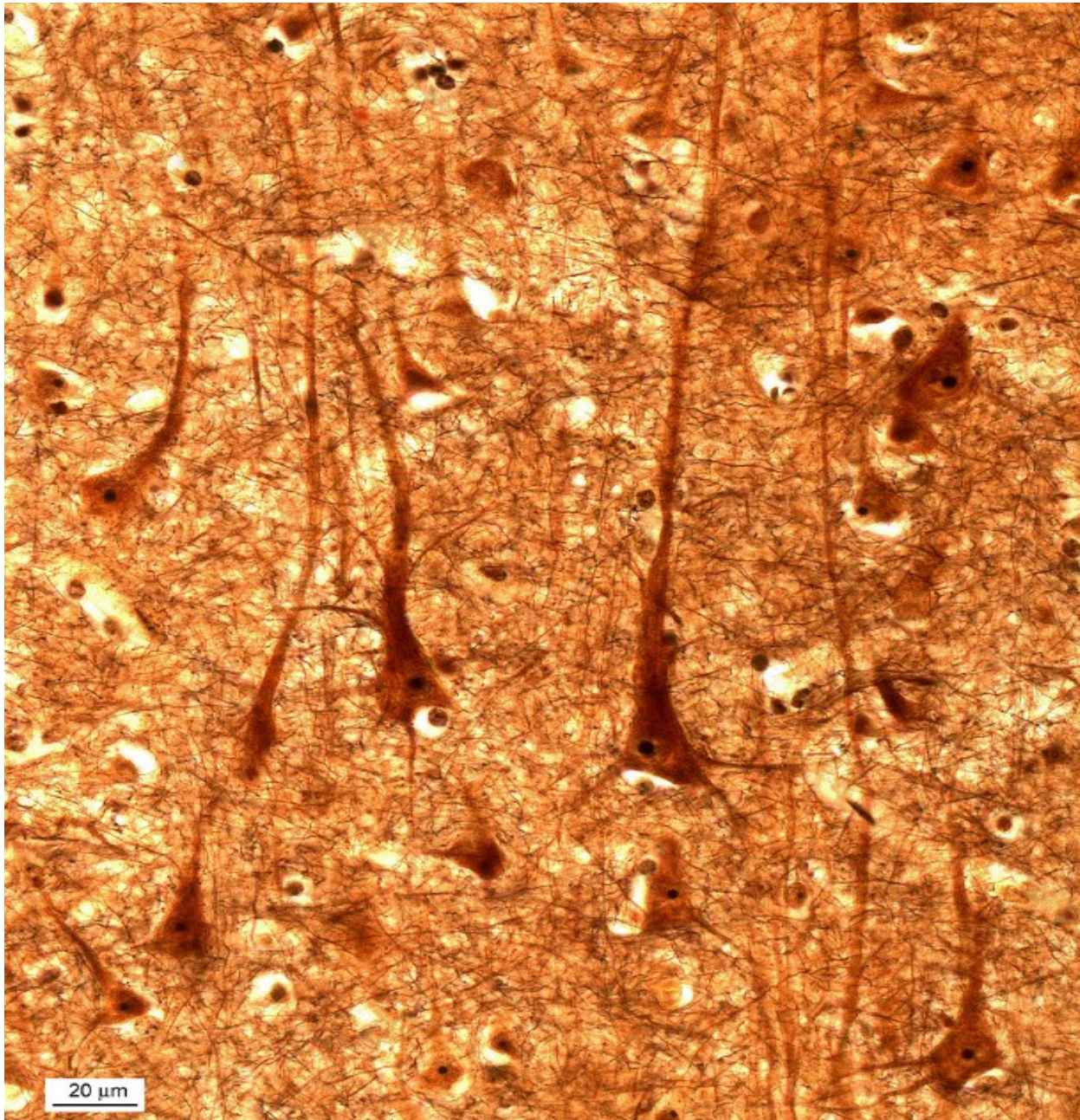
Cortex cerebri – přehled, (HE), objektiv 5x



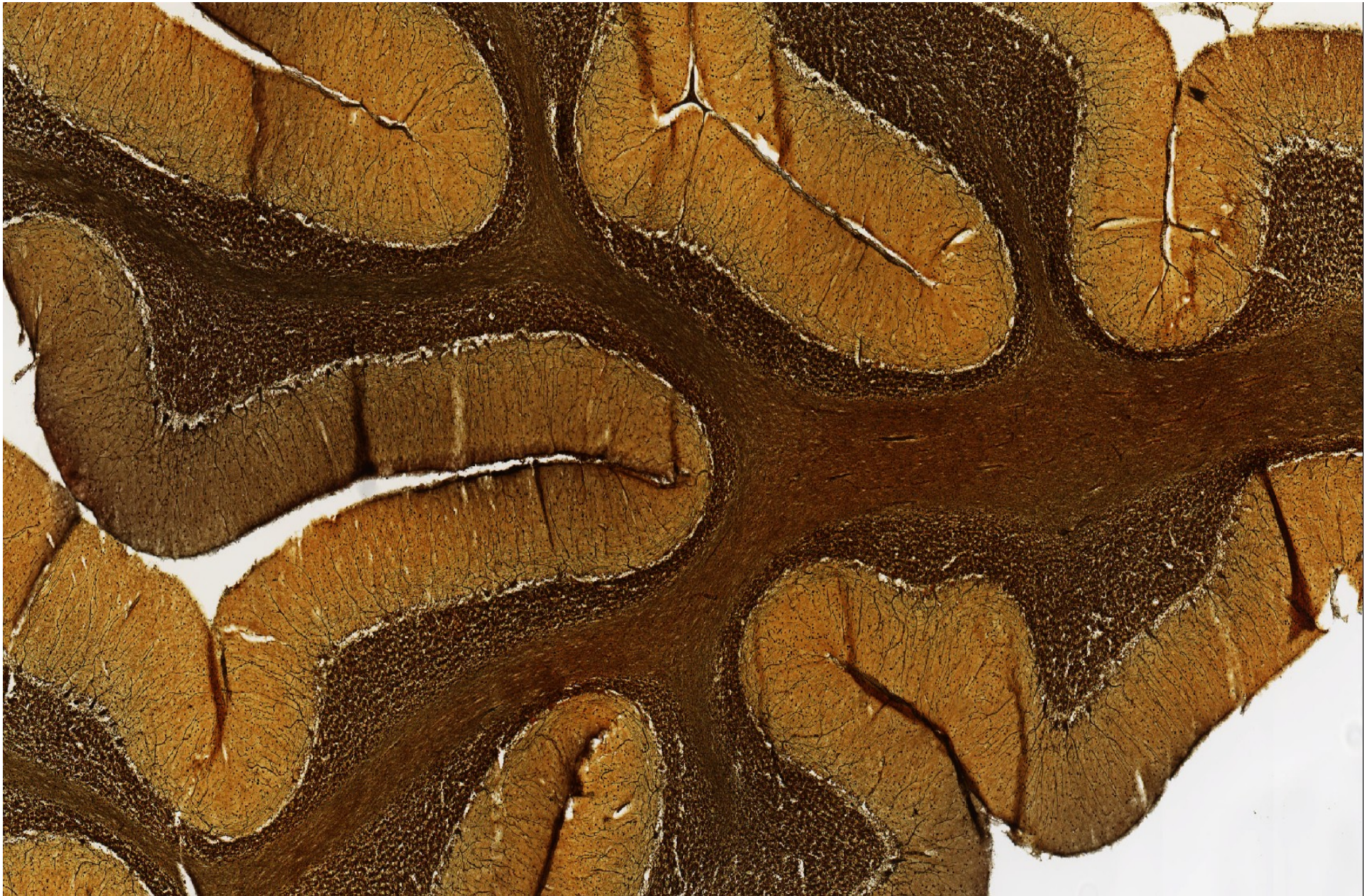
Cortex cerebri – Pyramidové buňky – multipolární neurony



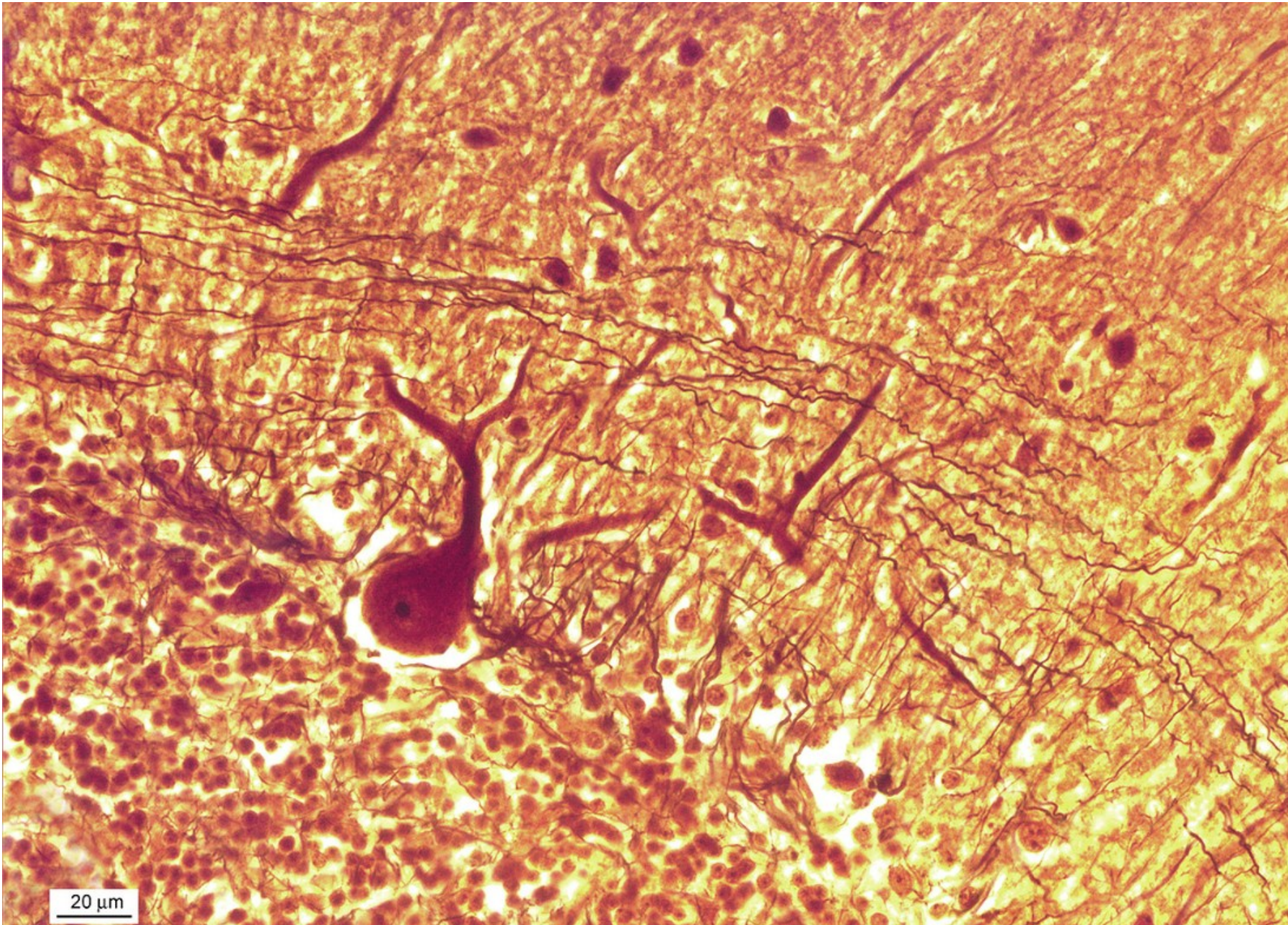
Cortex cerebri – Pyramidové buňky – multipolární neurony



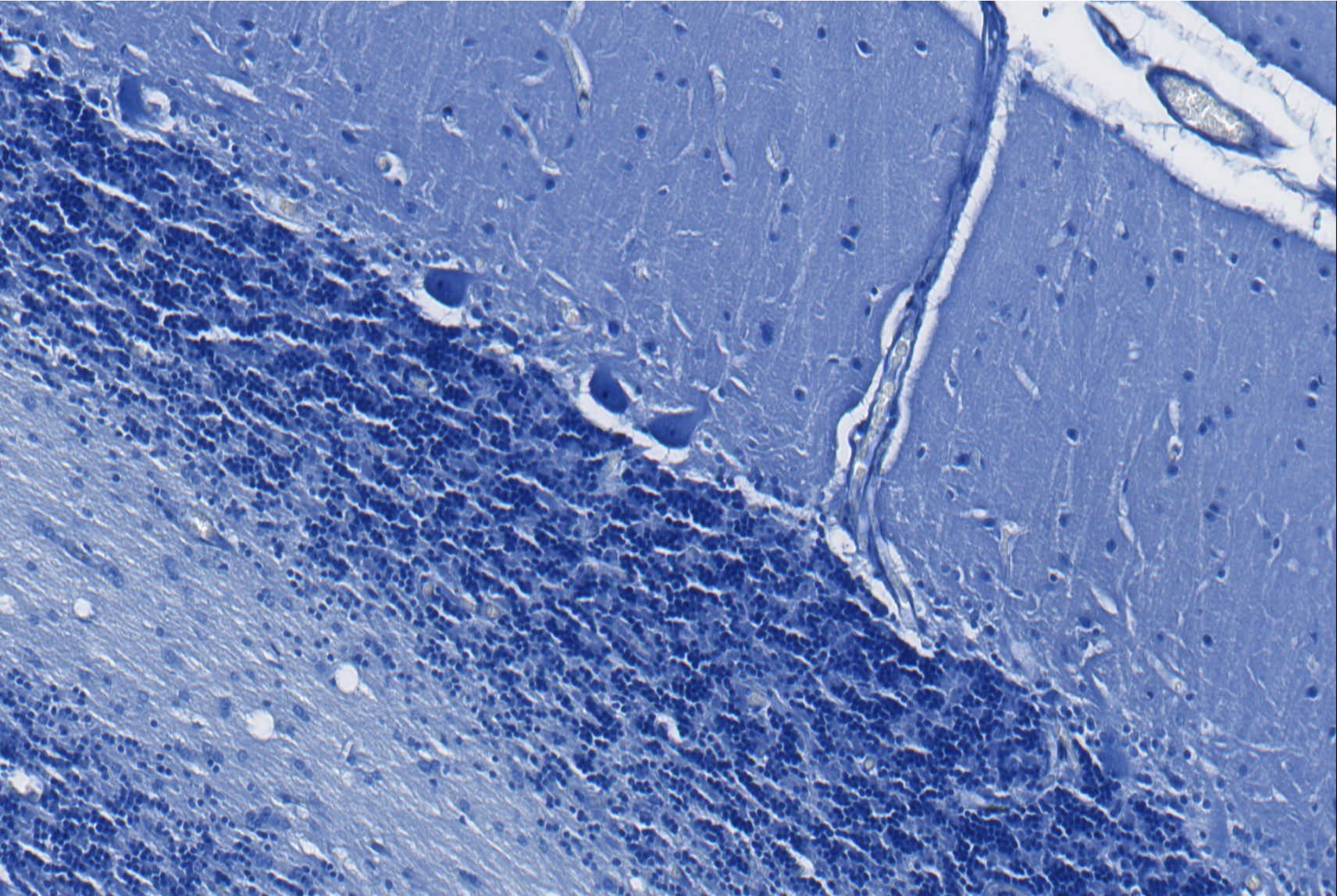
Cerebellum



Cerebellum - Purkyňova buňka



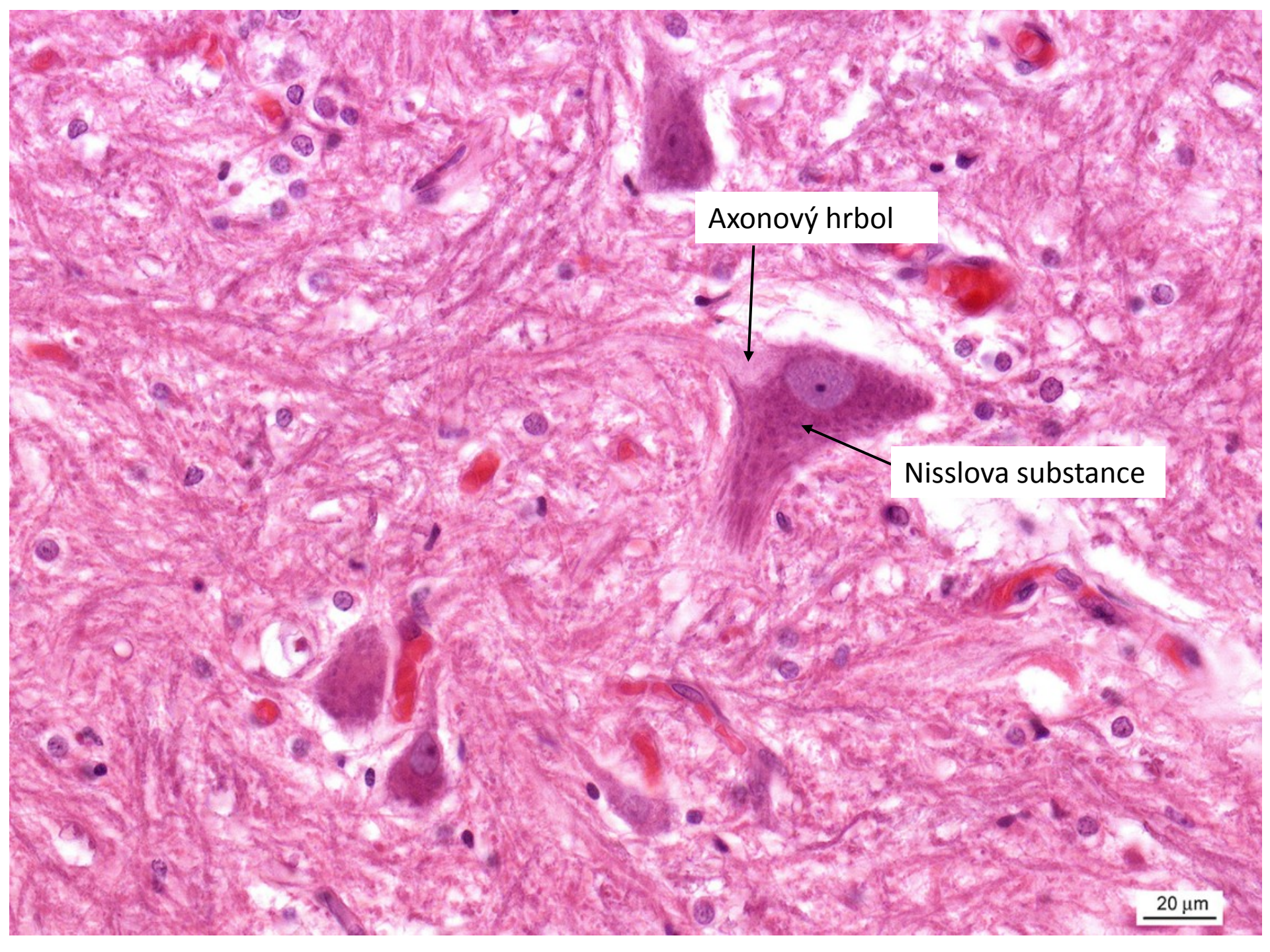
Cerebellum - Nisslova substance



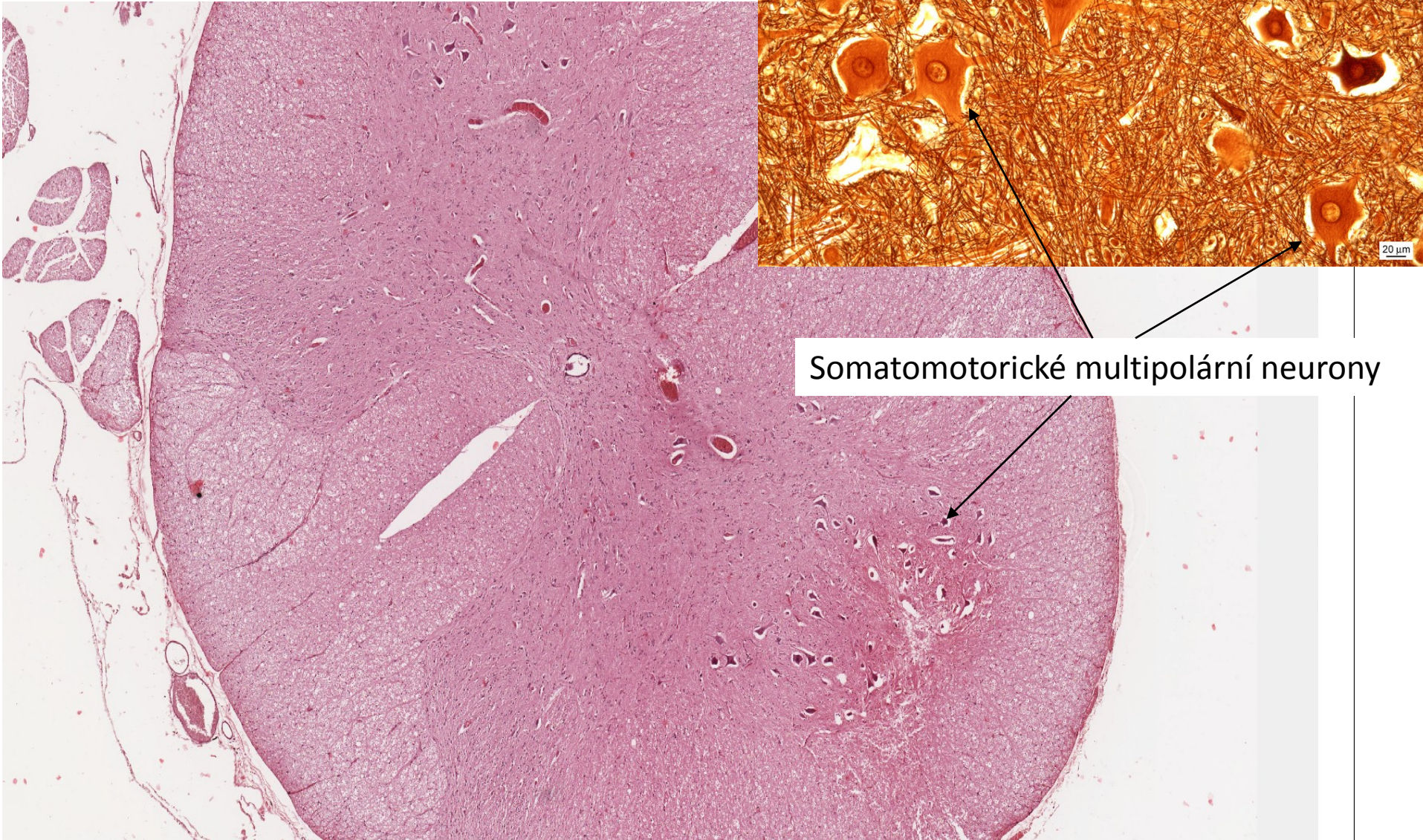
Axonový hrbol

Nisslova substance

20 μm



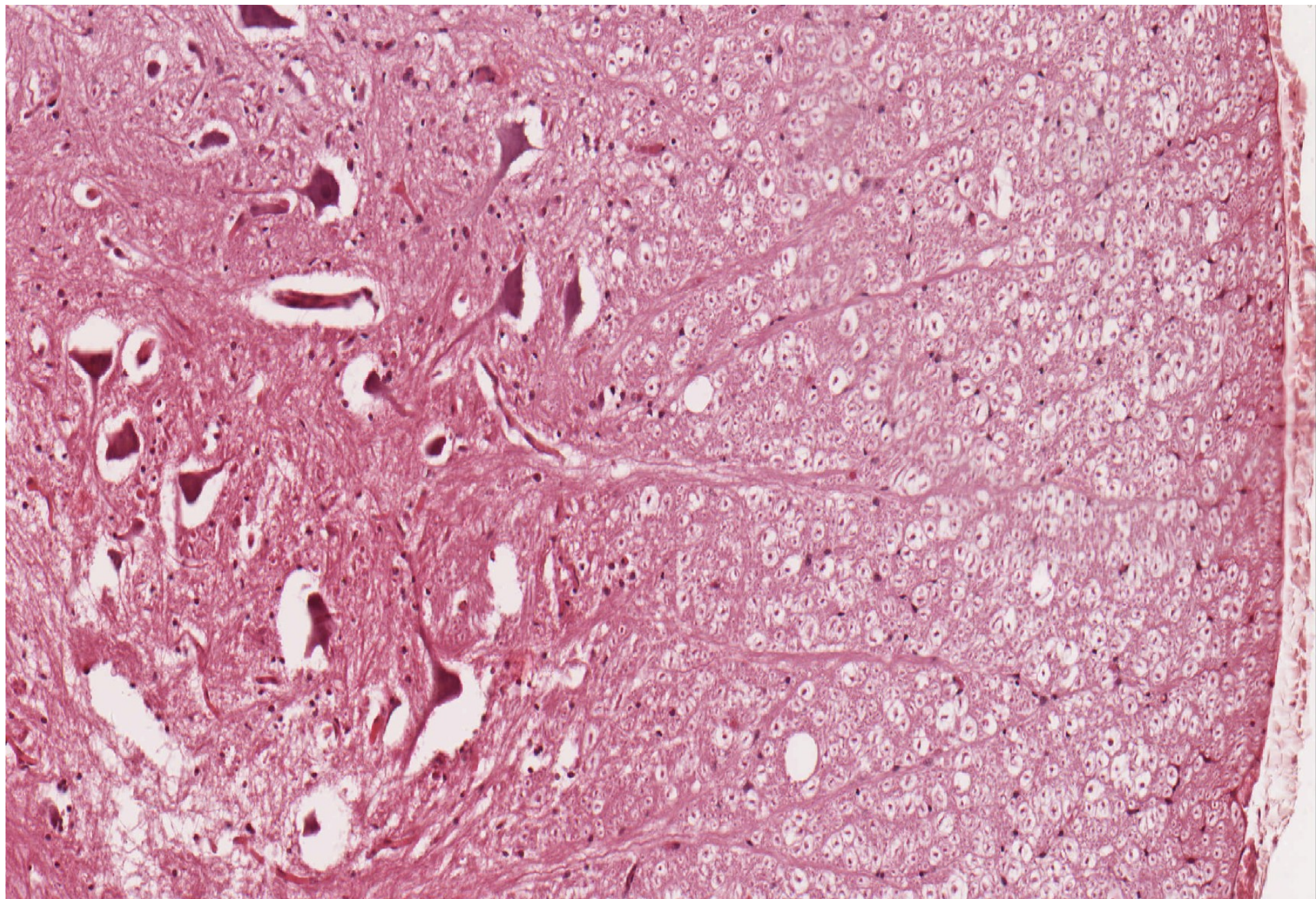
Medulla spinalis



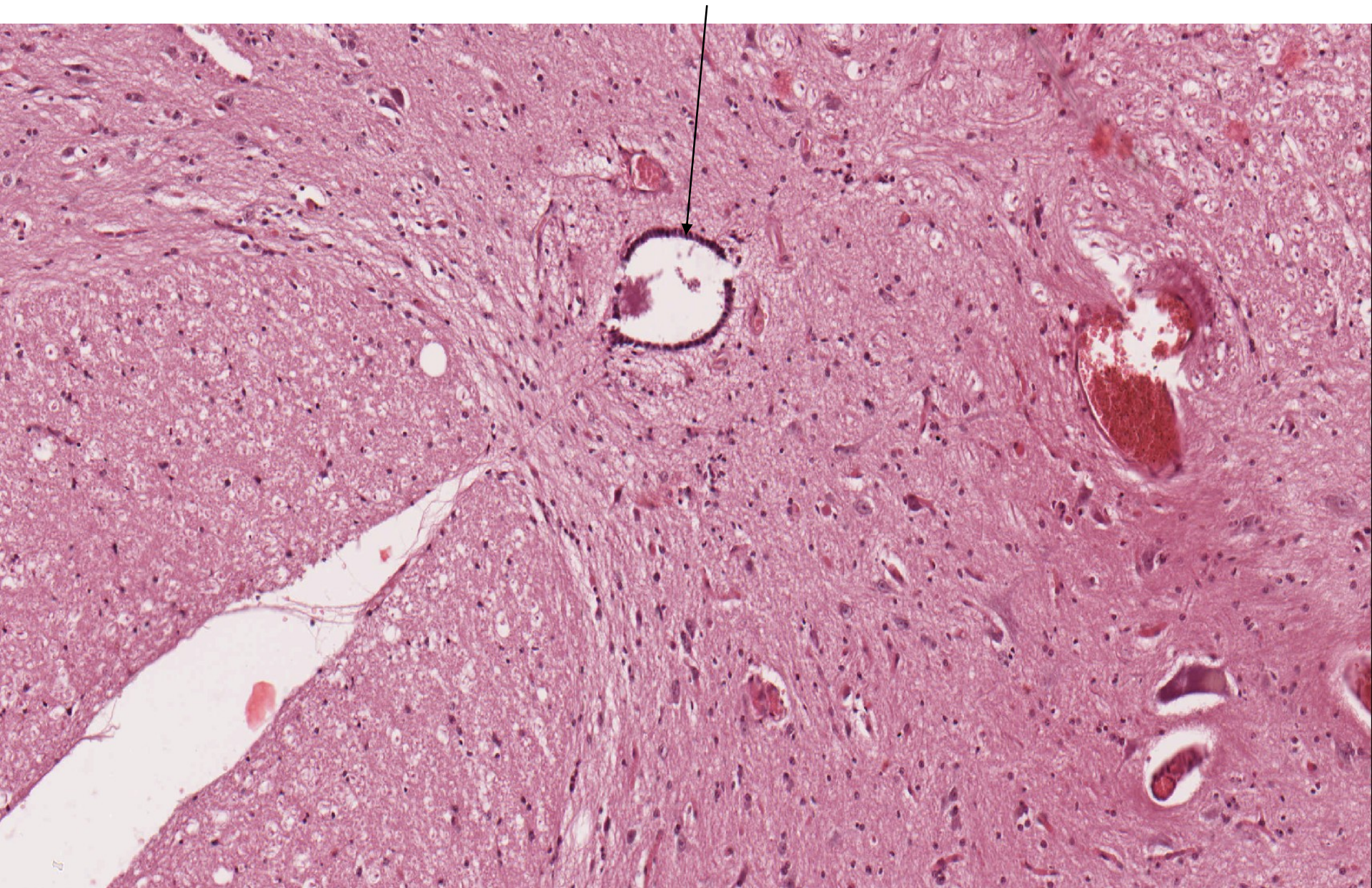
Somatomotorické multipolární neurony

Somatomotorické multipolární neurony

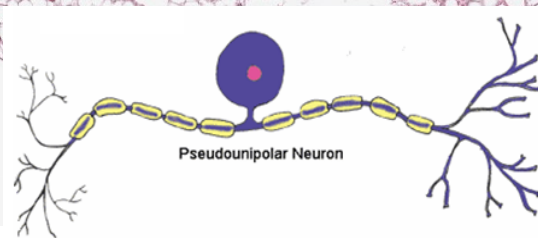
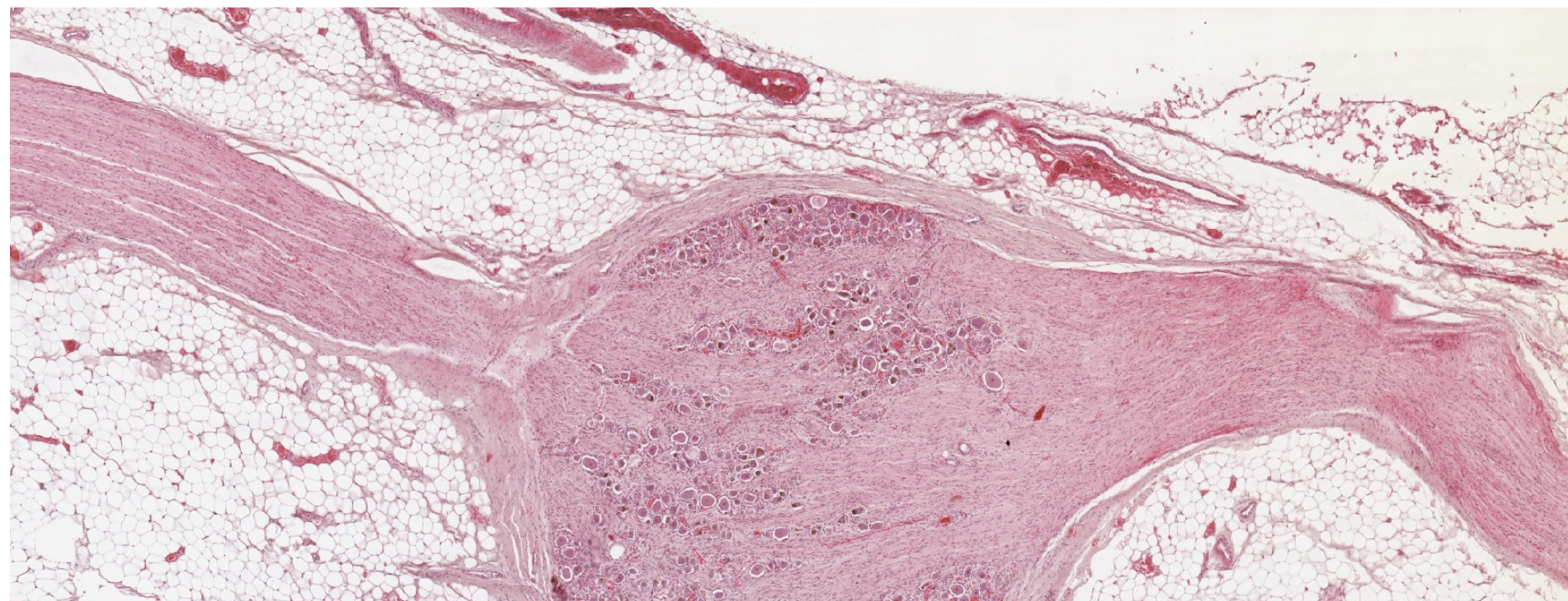
Myelinizované axony



Medulla spinalis – ependymové buňky

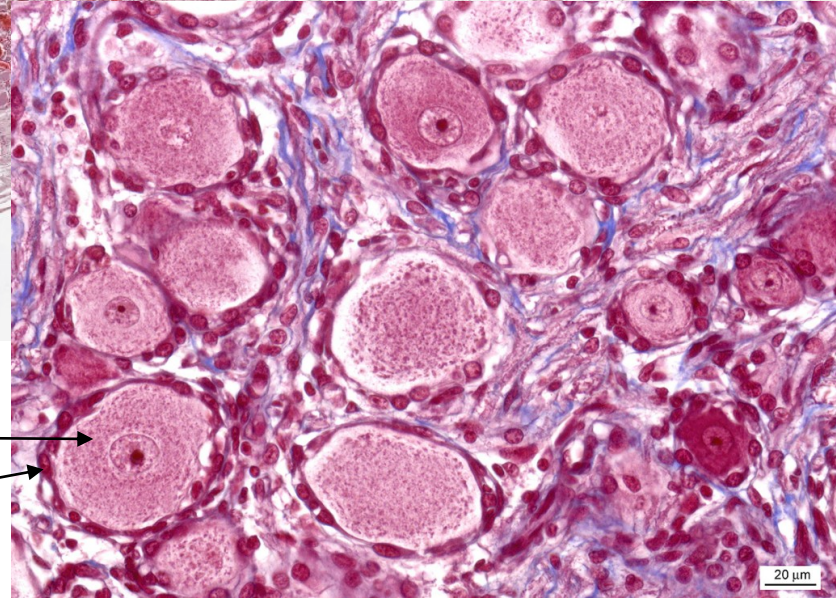


Ganglion spinale

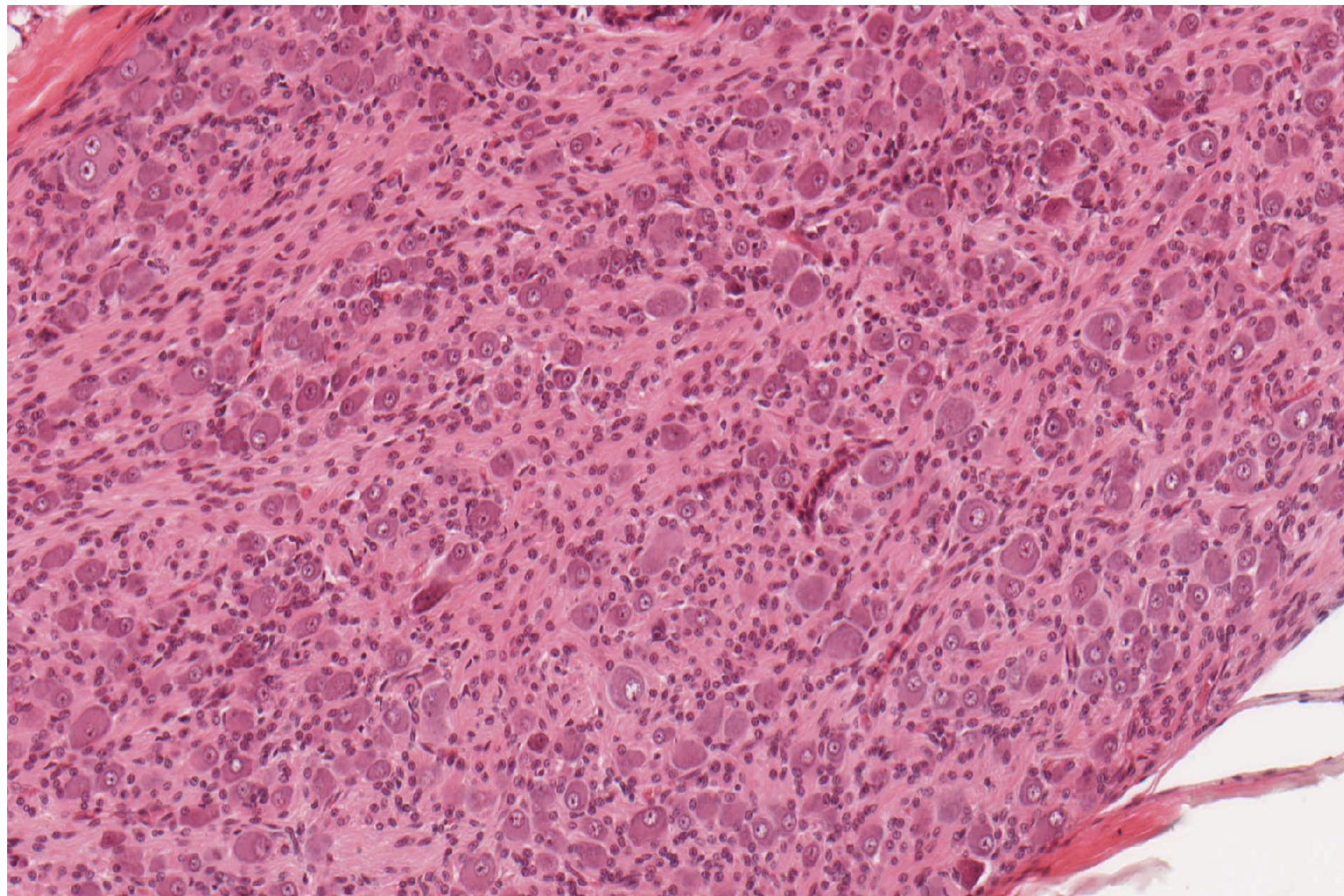


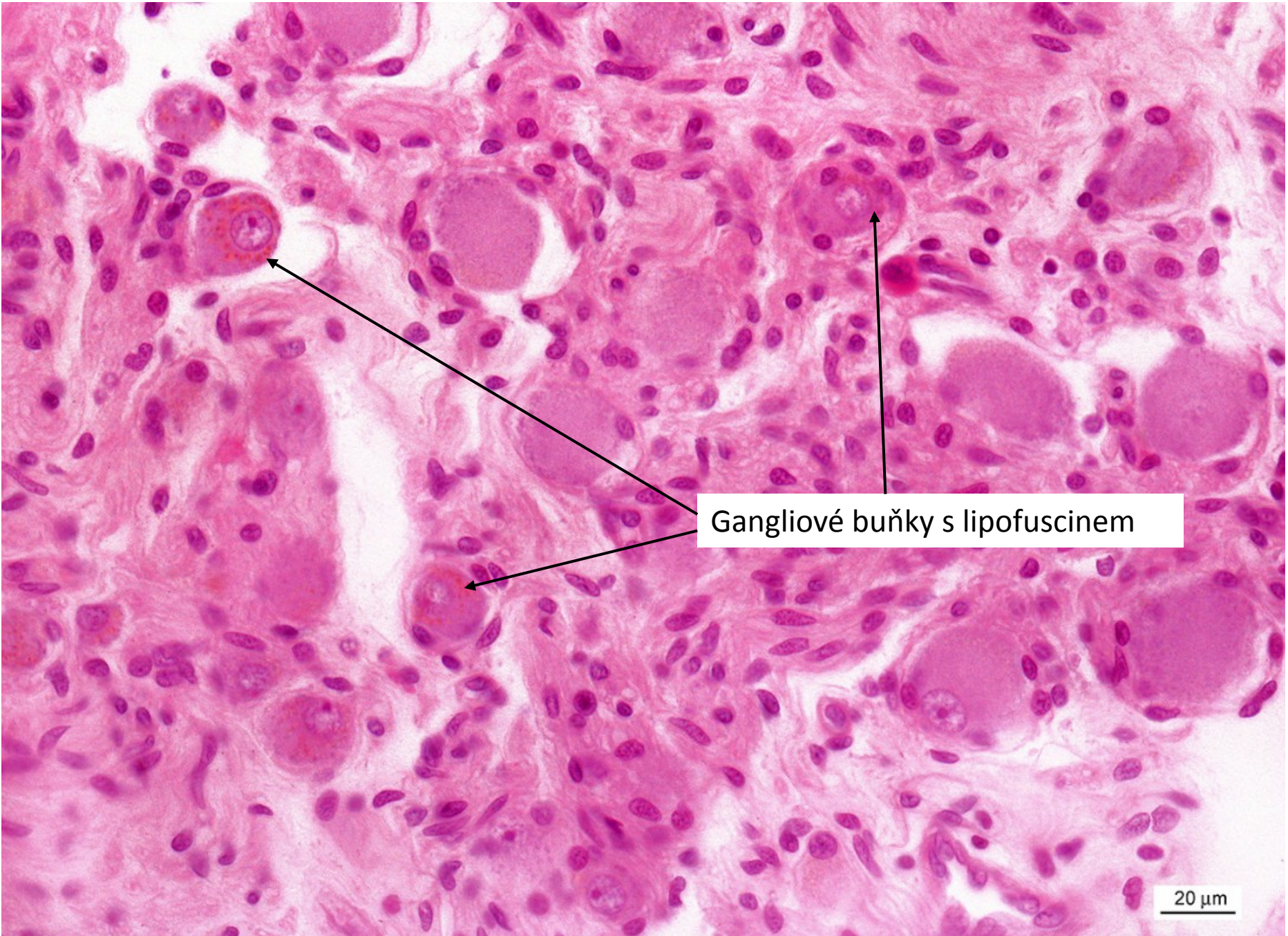
Pseudounipolární neurony

Satelitové buňky



Vegetativní ganglion – gangliové buňky (multipolární neurony), satelitové buňky

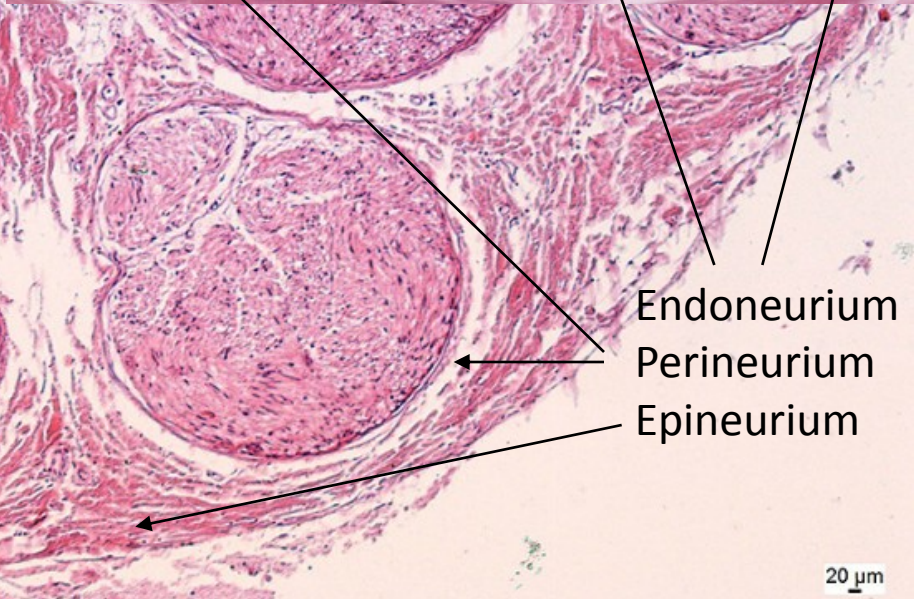
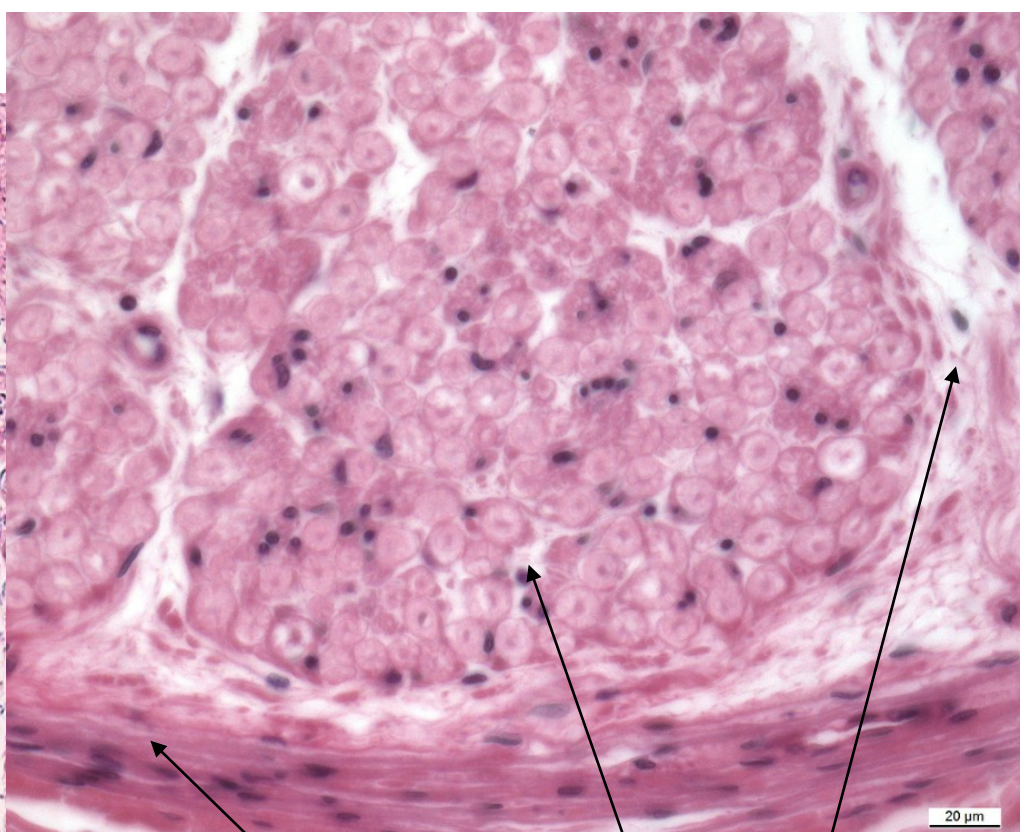
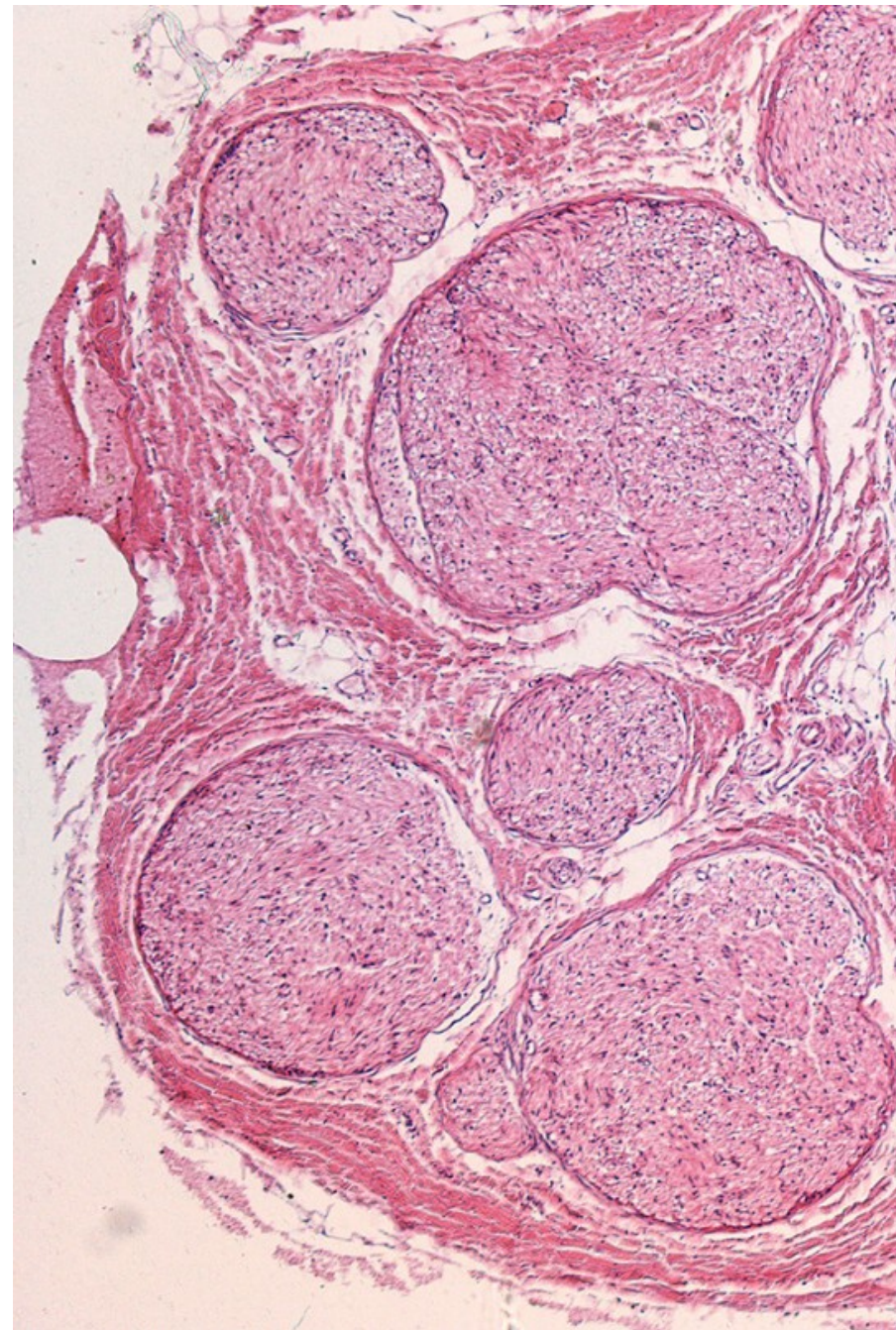




Gangliové buňky s lipofuscinem

20 μ m

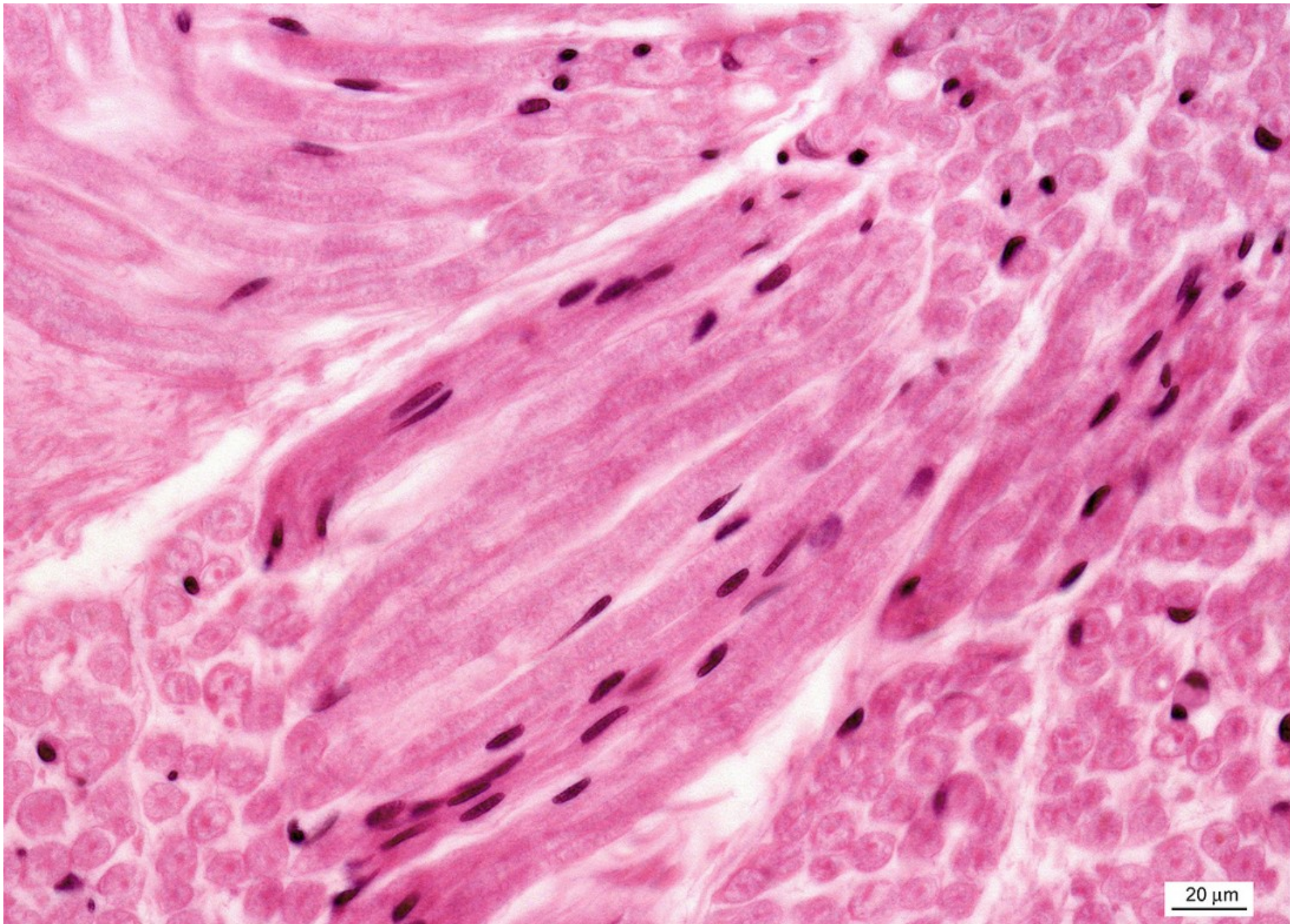
Periferní nerv - vazivo



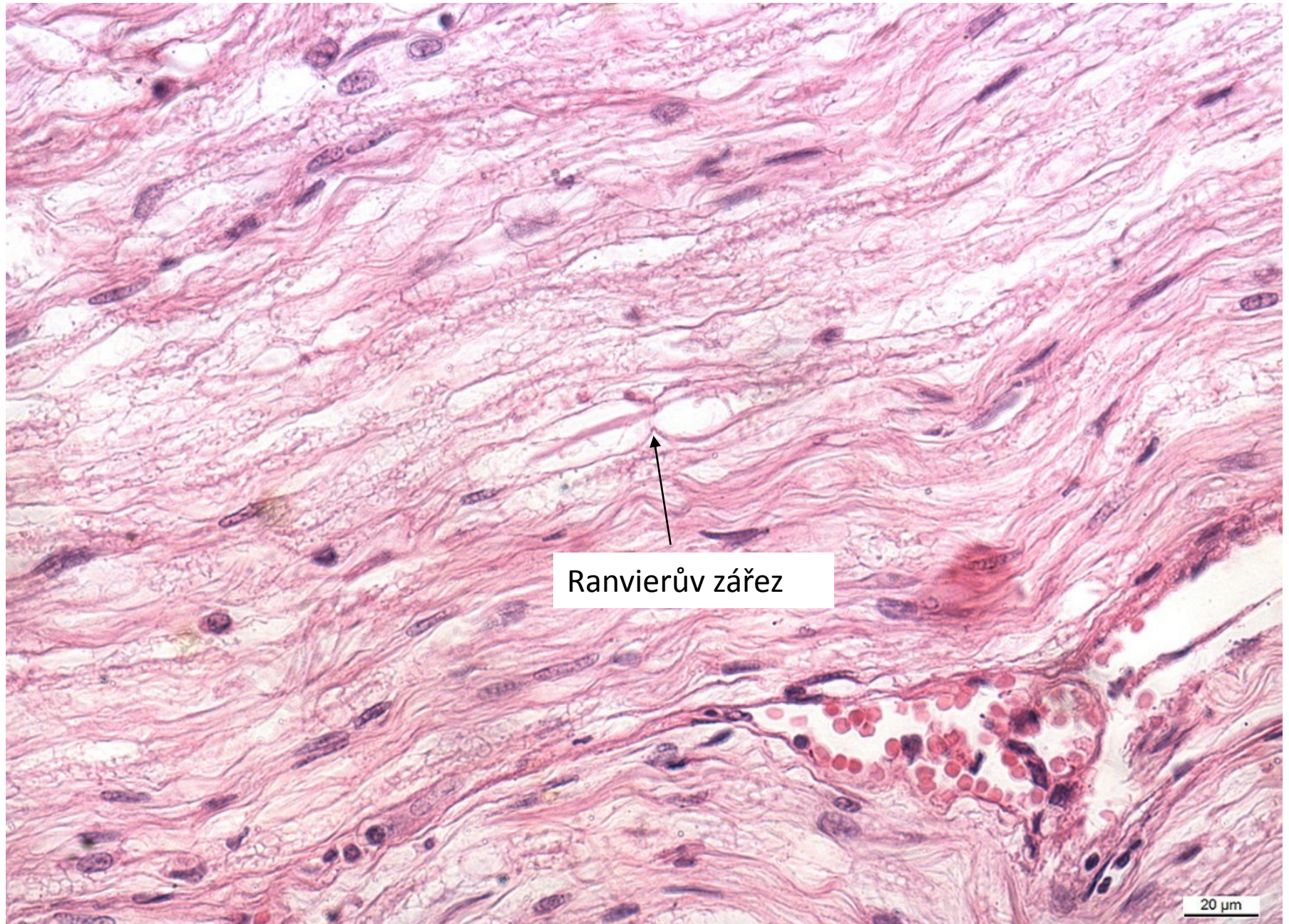
Endoneurium
Perineurium
Epineurium

20 μm

Periferní nerv

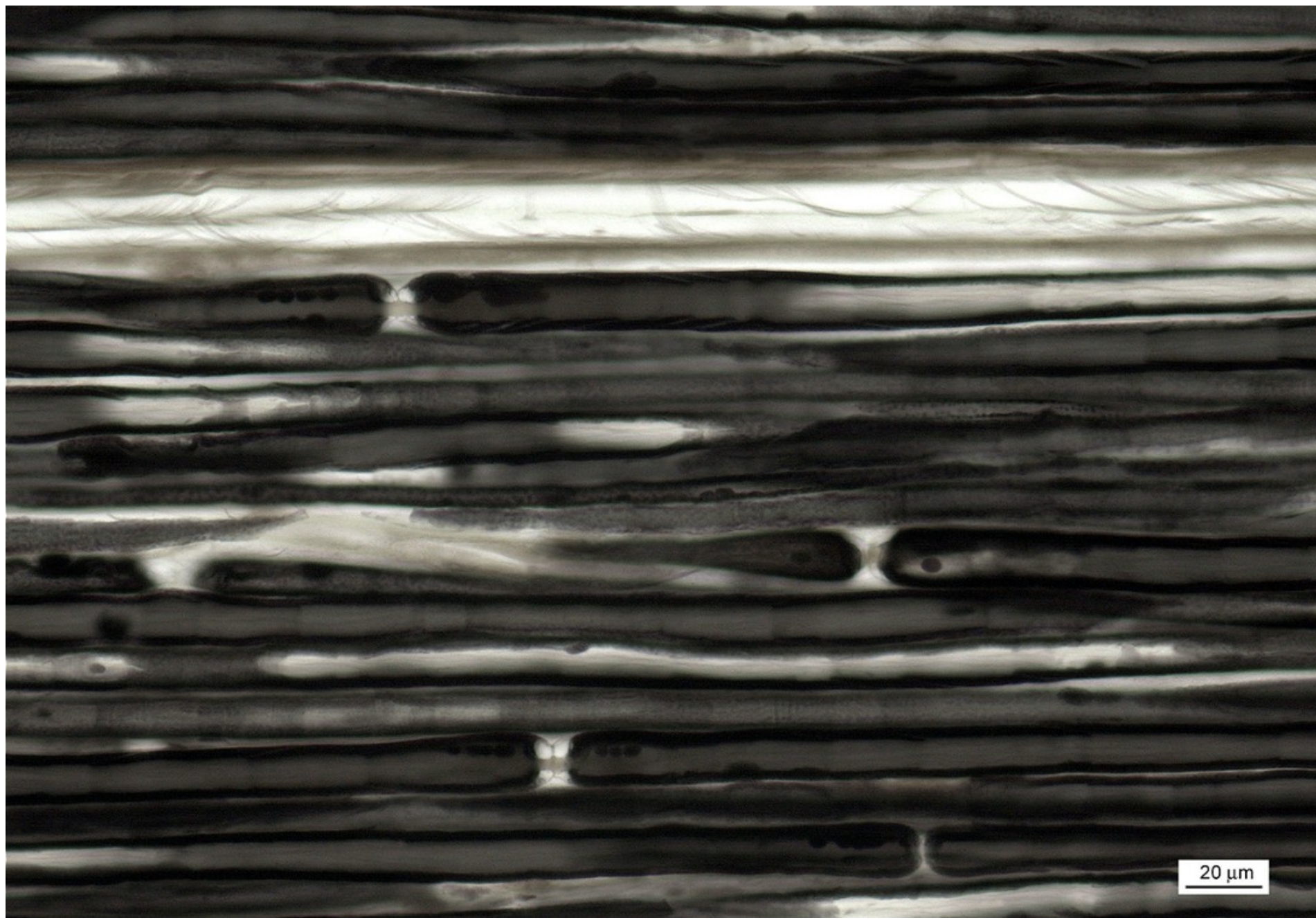


Periferní nerv - podélně



Ranvierův zářez

Myelinová pochva s Ranvierovými zářezy – periferní nerv (OsO₄)



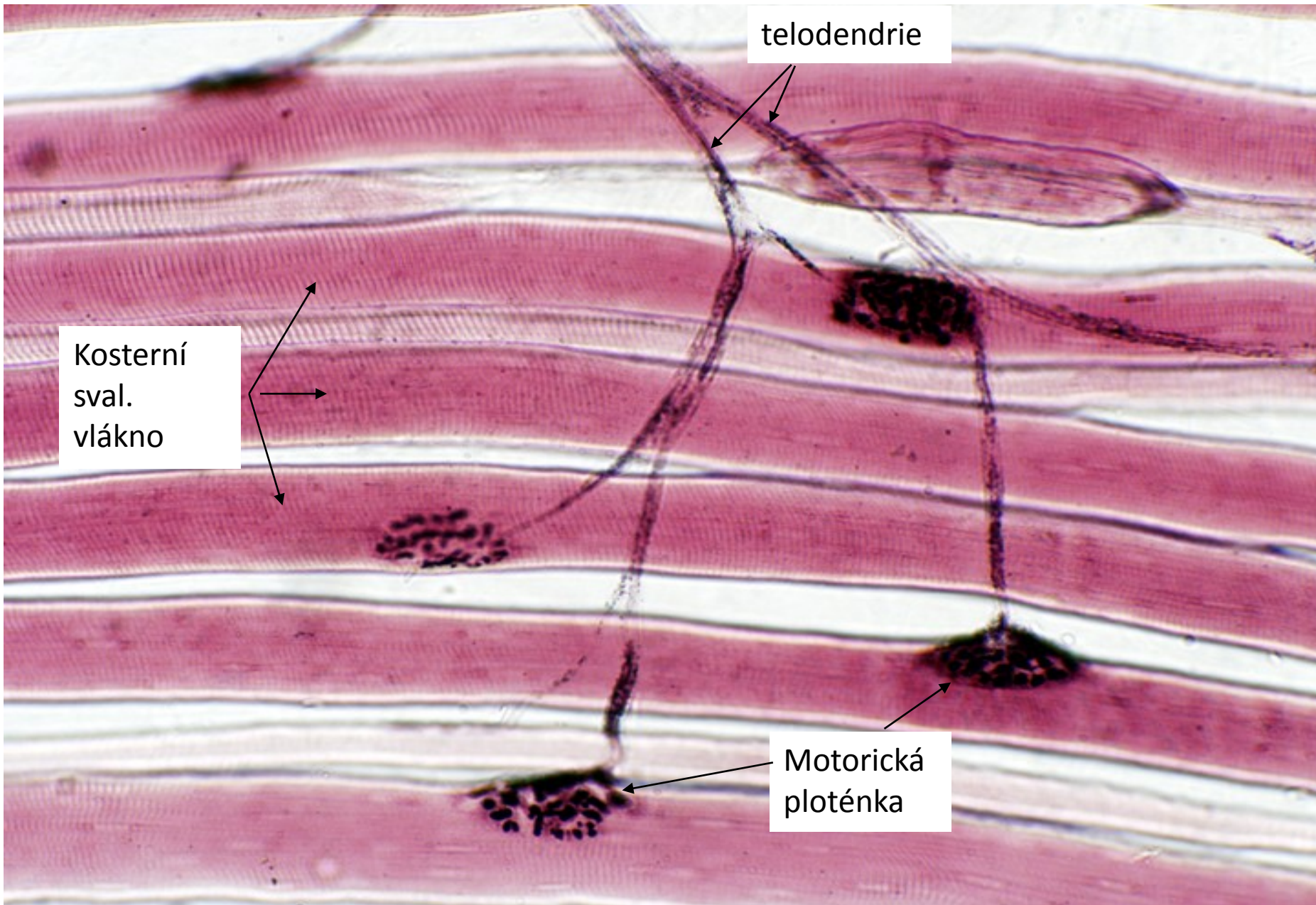
20 μ m

Motorické ploténky v motorické jednotce

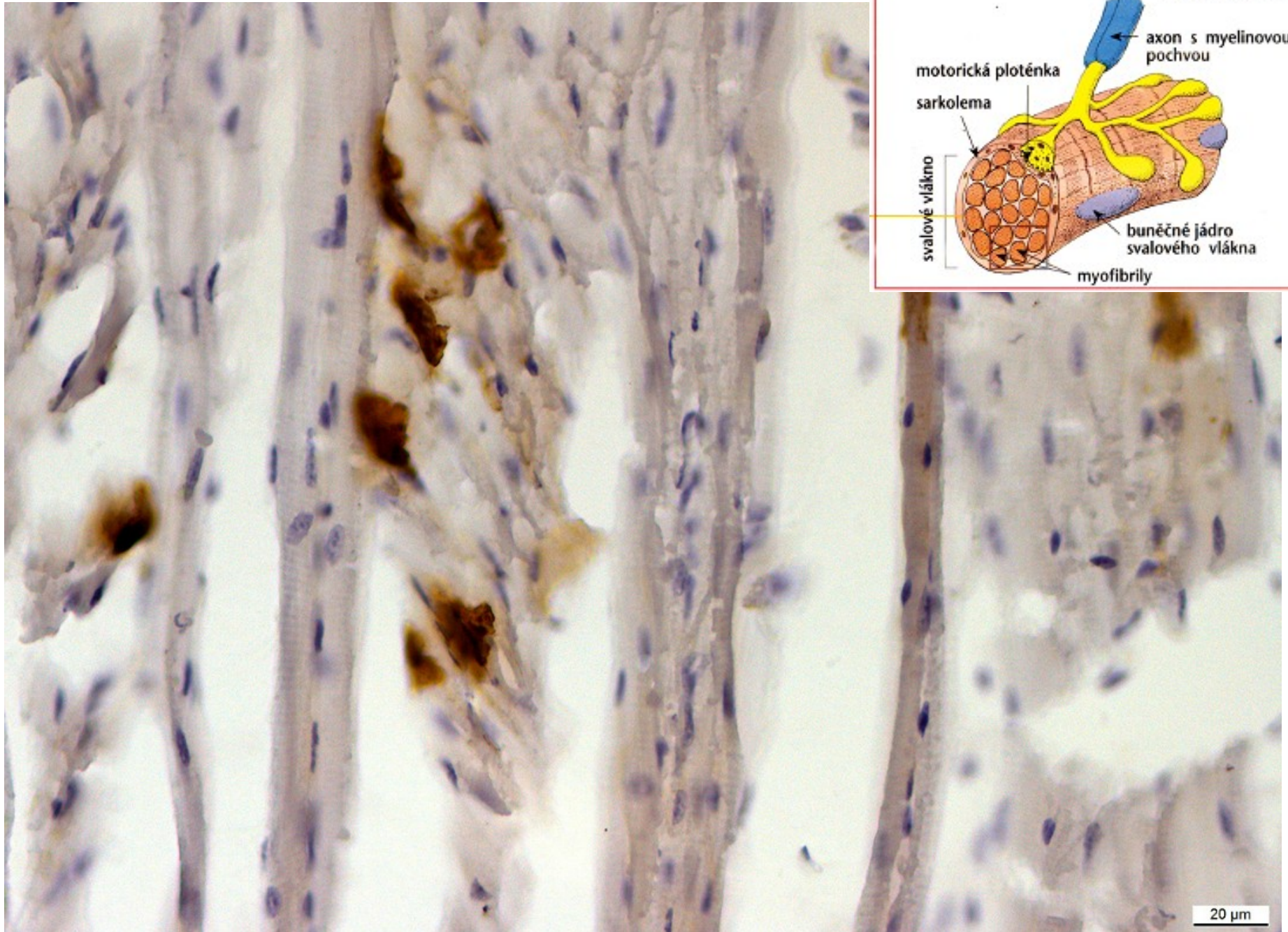
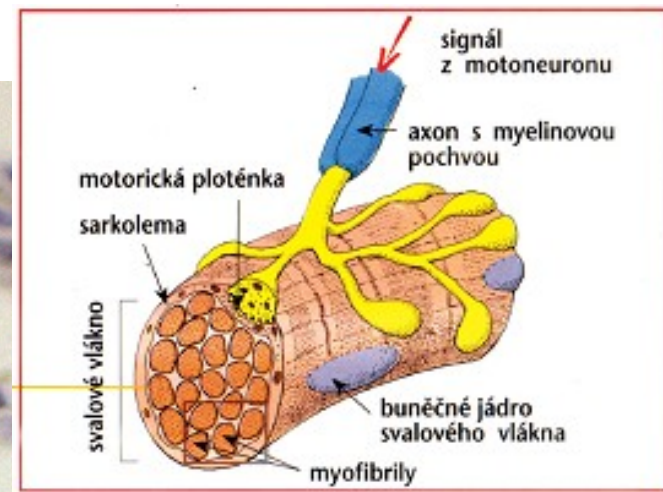
telodendrie

Kosterní
sval.
vlákno

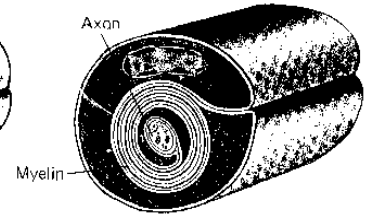
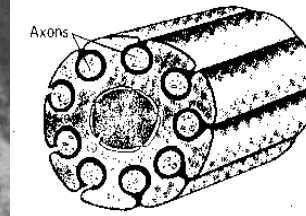
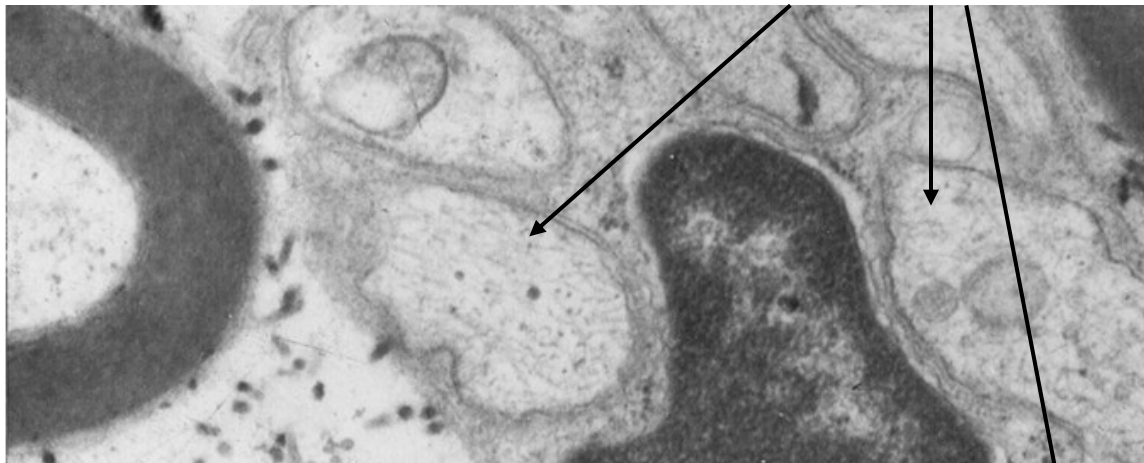
Motorická
ploténka



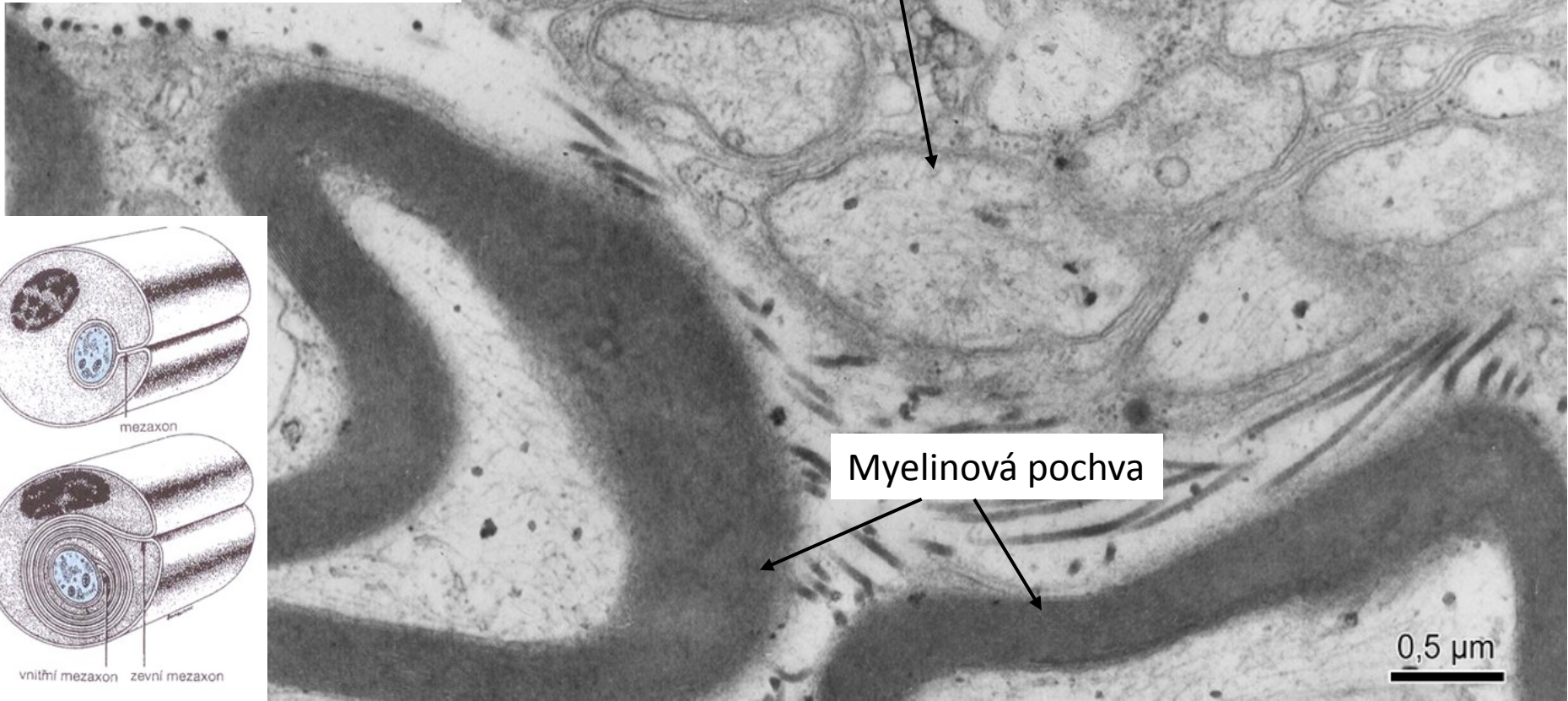
Motorická ploténka (detekce acetylcholinesterázy)



Axony se Schwanovou pochvou

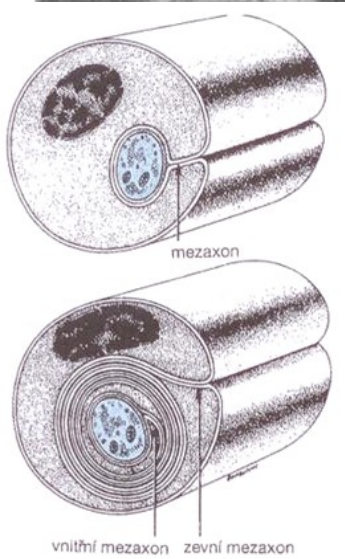


Jádro Schwannovy buňky

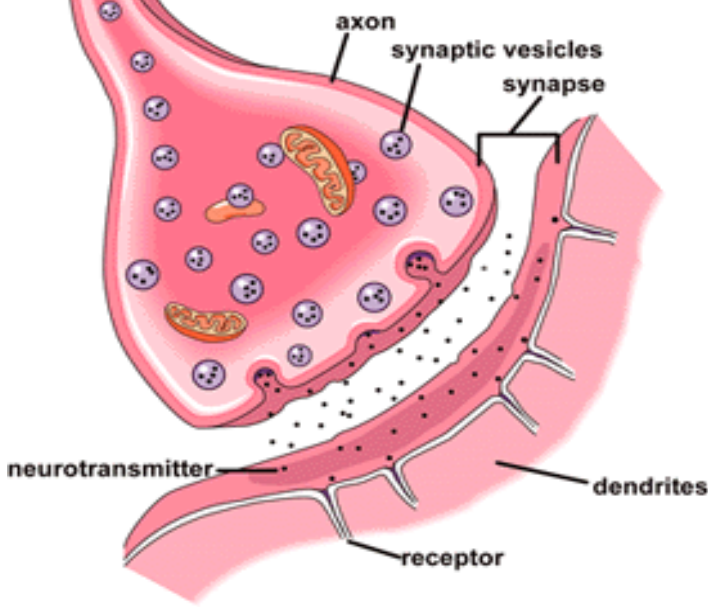


Myelinová pochva

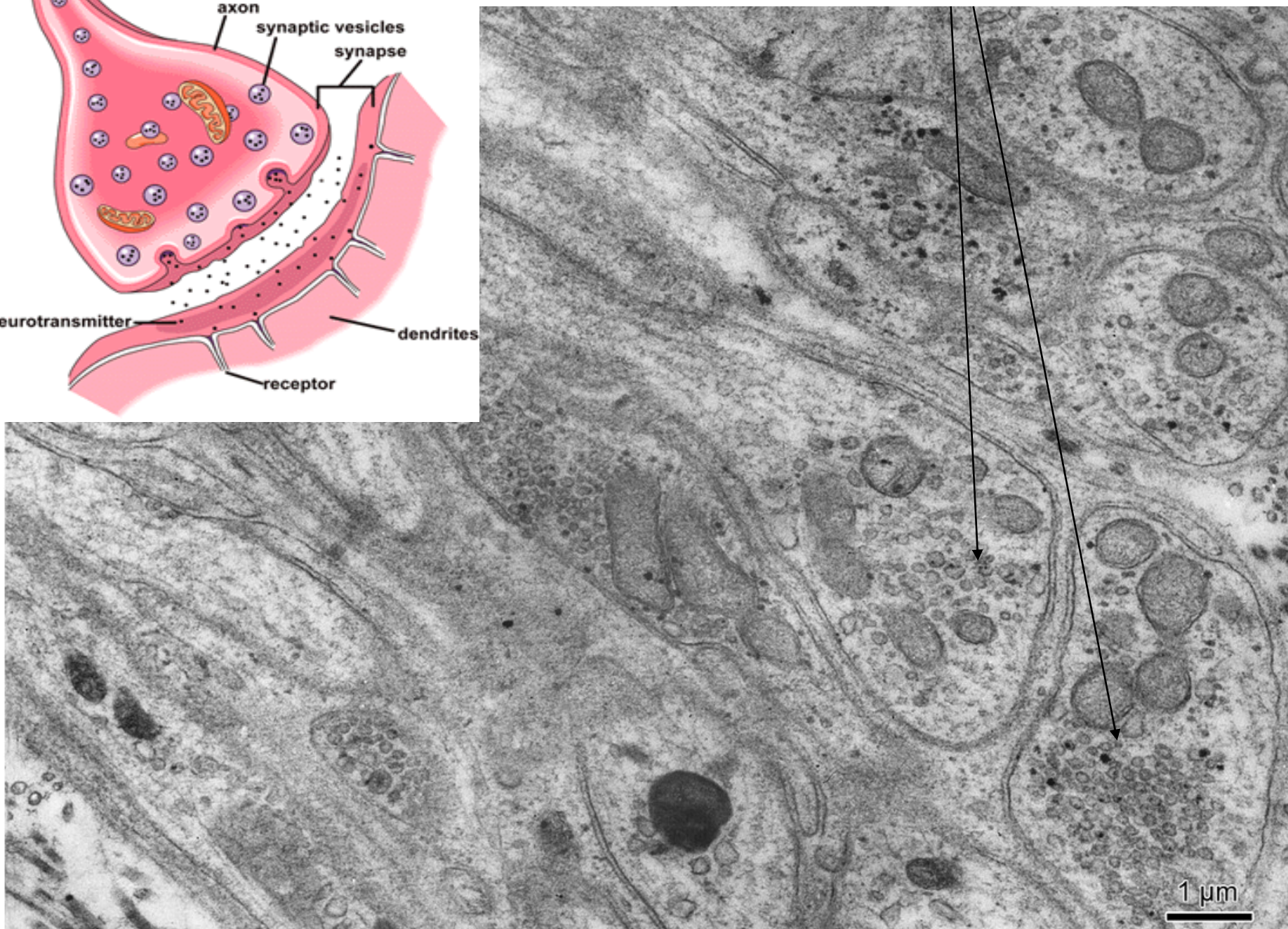
0,5 μm



Synapse



Presynaptické zakončení



NEUROTRANSMITTERS

ADRENALINE fight or flight

produced in stressful situations. Increases heart rate and blood flow, leading to physical boost and heightened awareness.

GABA calming

Calms firing nerves in the central nervous system. High levels improve focus, low levels cause anxiety. Also contributes to motor control and vision.

NORADRENALINE concentration

affects attention and responding actions in the brain. Contracts blood vessels, increasing blood flow.

ACETYLCHOLINE learning

Involved in thought, learning and memory. Activates muscle action in the body. Also associated with attention and awakening.

DOPAMINE pleasure

feelings of pleasure, also addiction, movement and motivation. People repeat behaviors that lead to dopamine release.

GLUTAMATE memory

Most common neurotransmitter. Involved in learning and memory, regulates development and creation of nerve contacts.

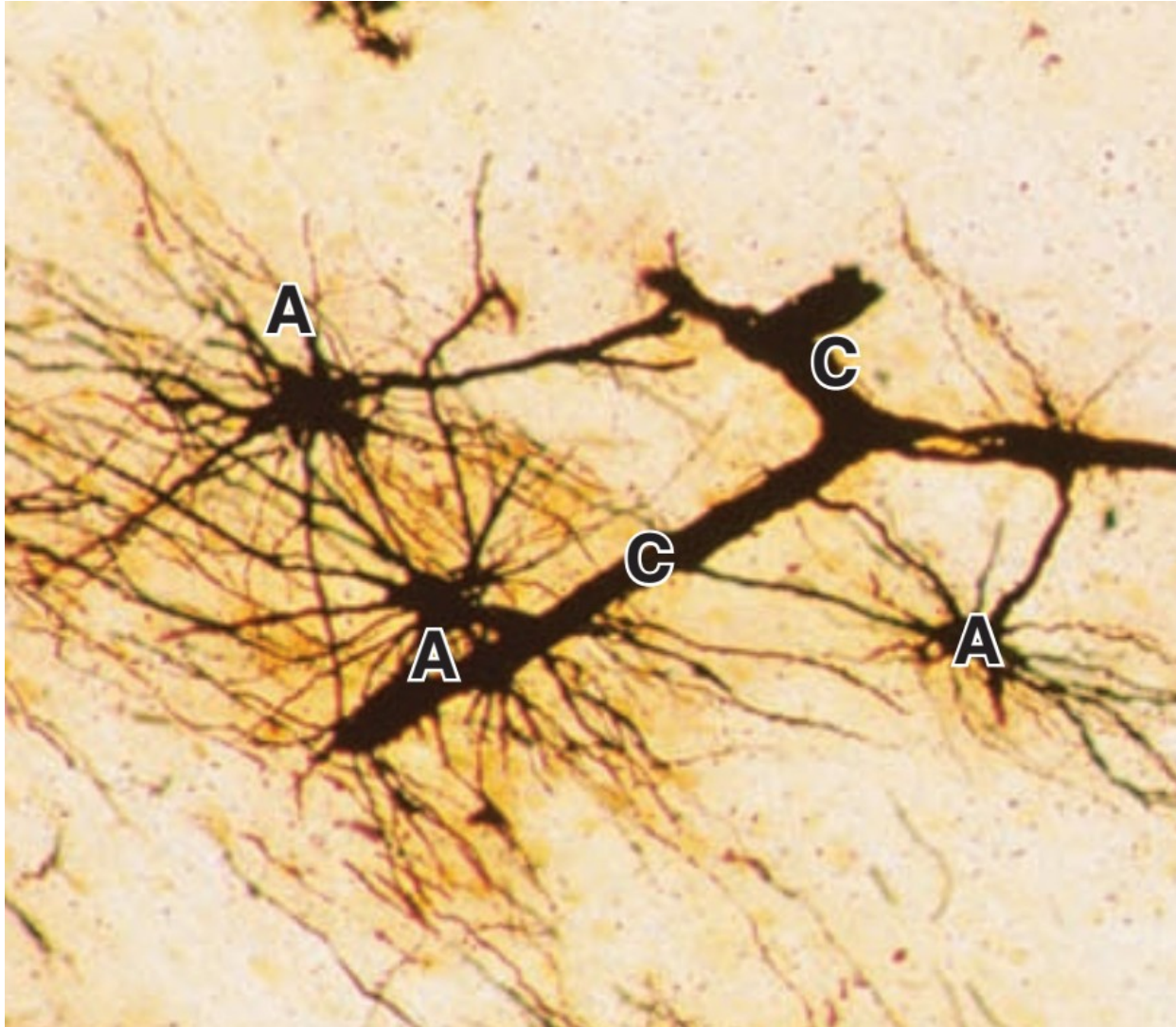
SEROTONIN mood

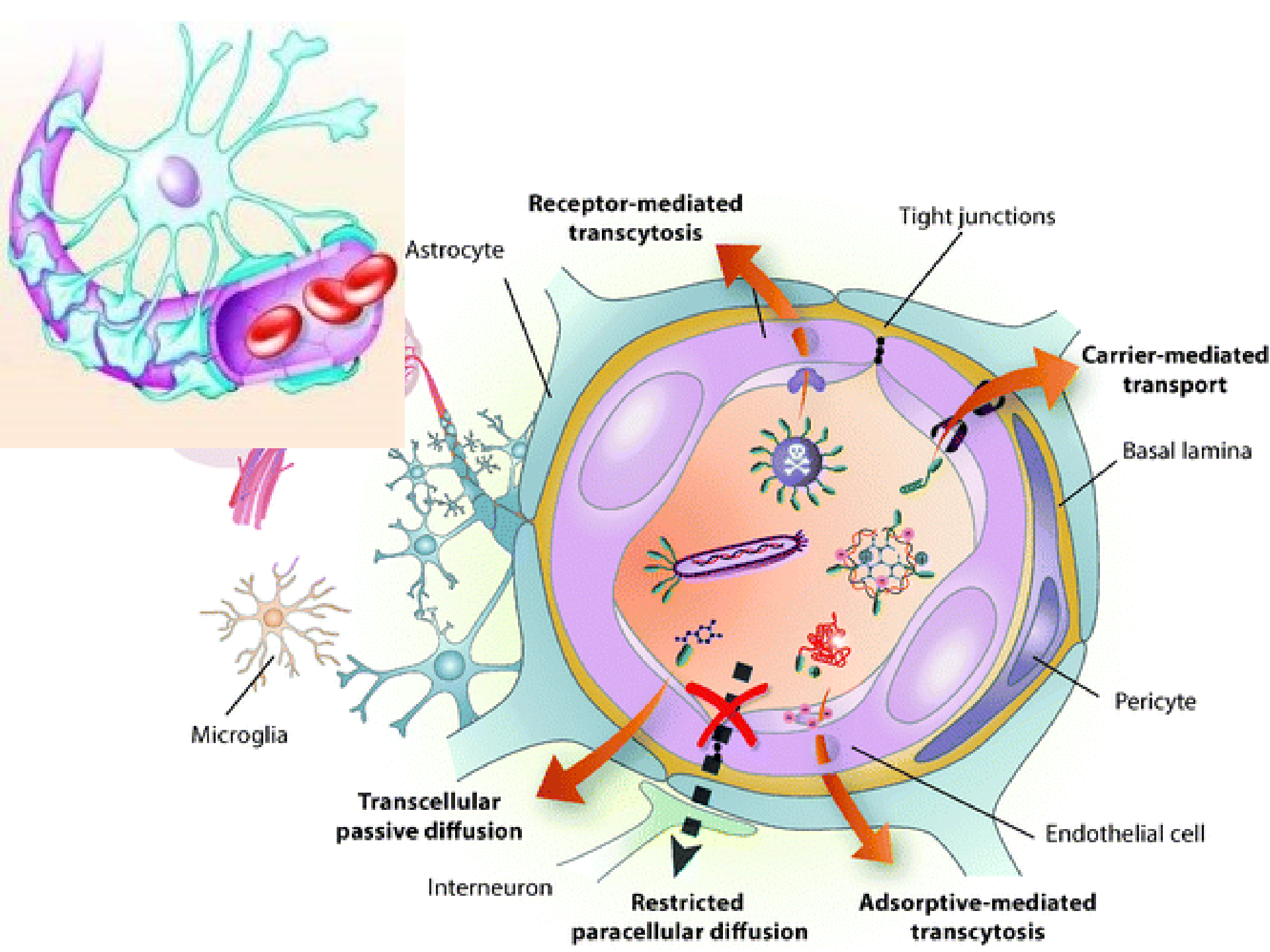
contributes to well-being and happiness. Helps sleep cycle and digestive system regulation. Affected by exercise and light exposure.

ENDORPHINS euphoria

Released during exercise, excitement and sex, producing well-being and euphoria, reducing pain

Hematoencefalická bariéra





NERVOVÁ TKÁŇ

Preparáty:

Pyramidová buňka (75, 76. Cortex cerebri)

Purkyňova buňka (77. Cerebellum)

Nisslova substance (78. Cerebellum)

Somatomotorický multipolární neuron (79. Medulla spinalis)

Pseudounipolární neuron (81. Ganglion spinale)

Axon s myelinovou a Schwannovou pochvou (84, 86. Periferní nerv)

Myelinová pochva (87. Periferní nerv)

Motorická ploténka (detekce acetylcholinesterázy)

Atlas EM:

Jádro (3) a cytoplazma neuronu (55)

Axony s obaly (56, 58)

Presynaptické zakončení (57)