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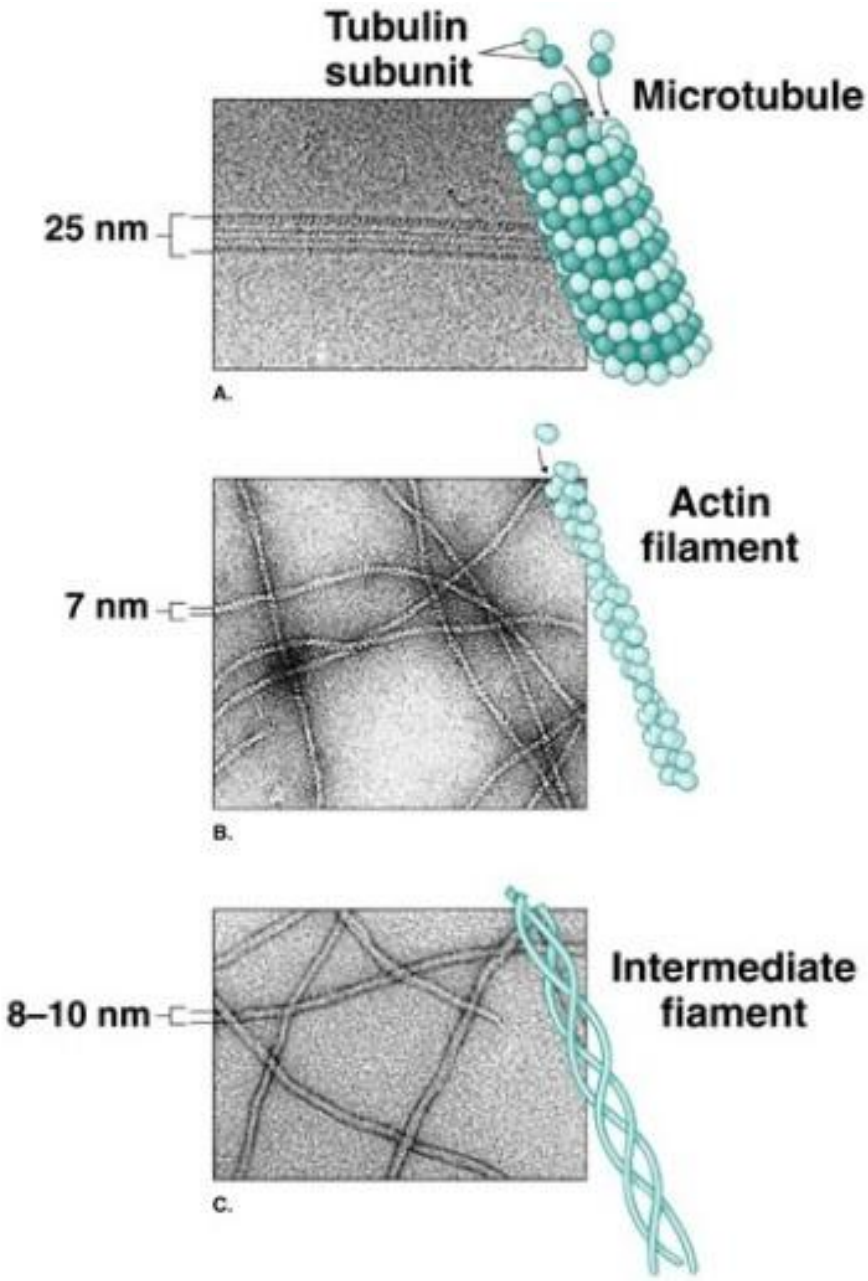
CYTOLOGY II

Cytoskeleton and centriol. Cell inclusions. Modifications of cell surfaces. Intercellular junctions.

ATLAS OF CYTOLOGY AND EMBRYOLOGY


Tubulin subunit
Microtubule
25 nm
A.
Actin filament
7 nm
B.
Intermediate fiament
8–10 nm
C.

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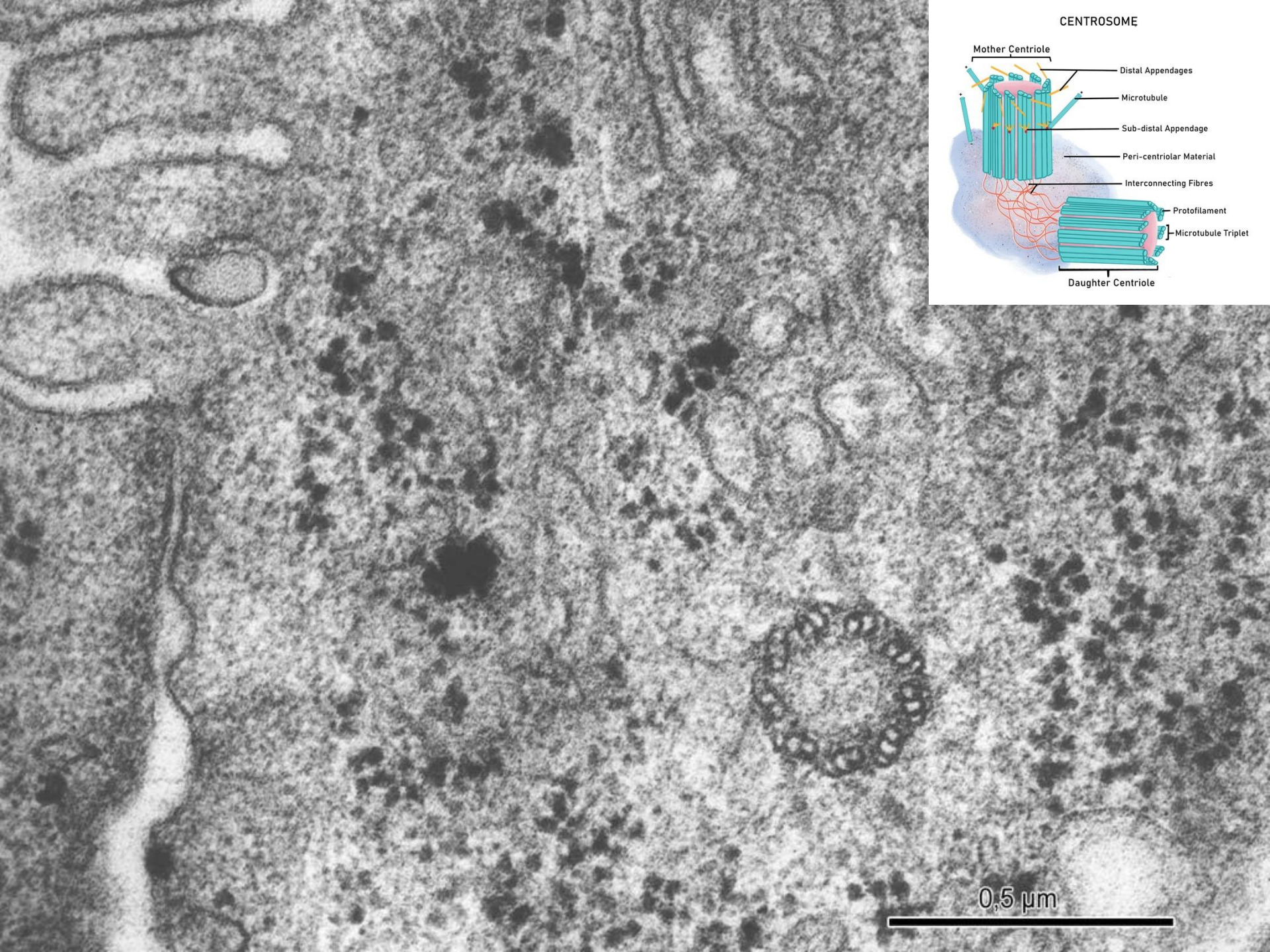
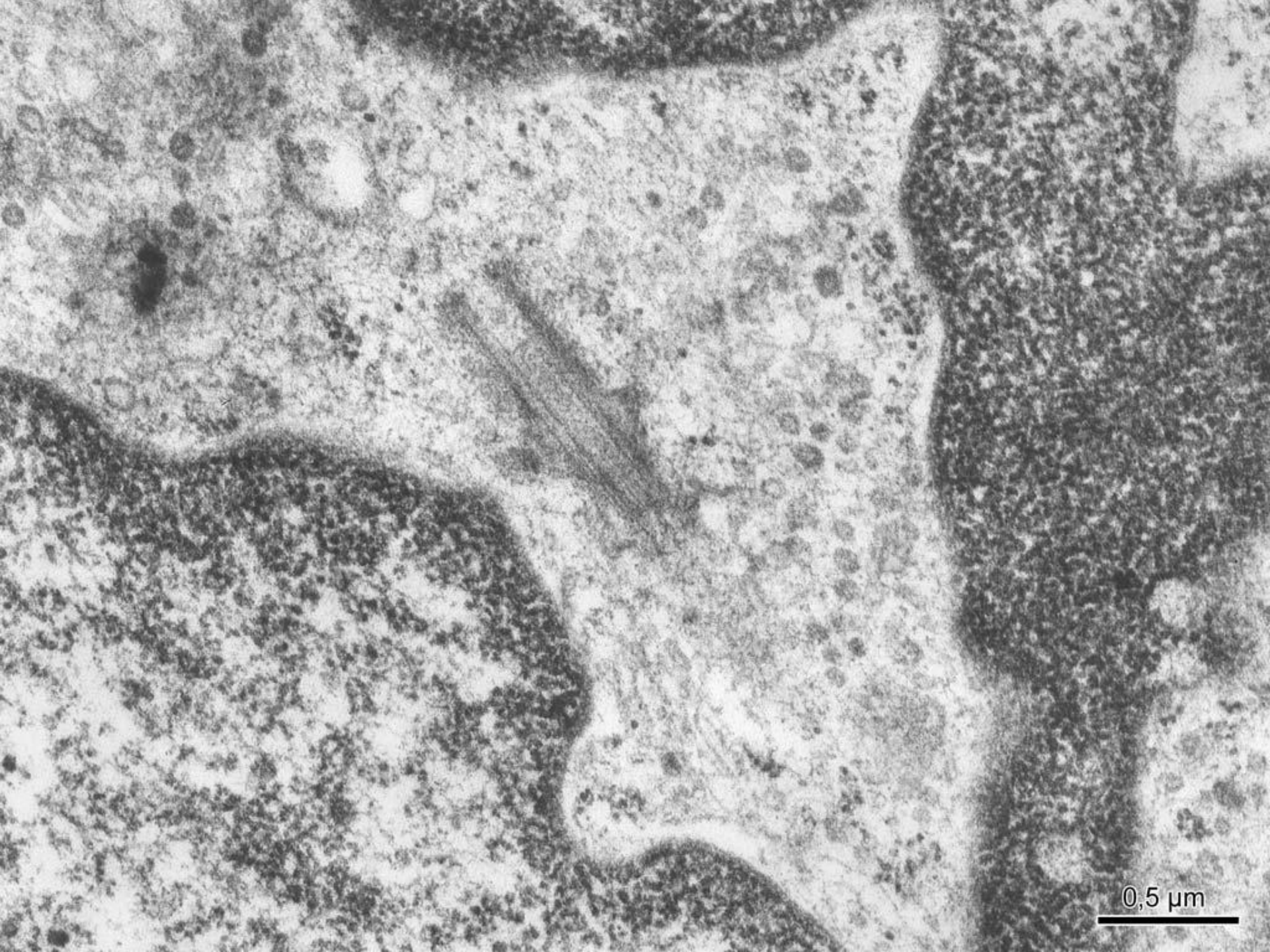
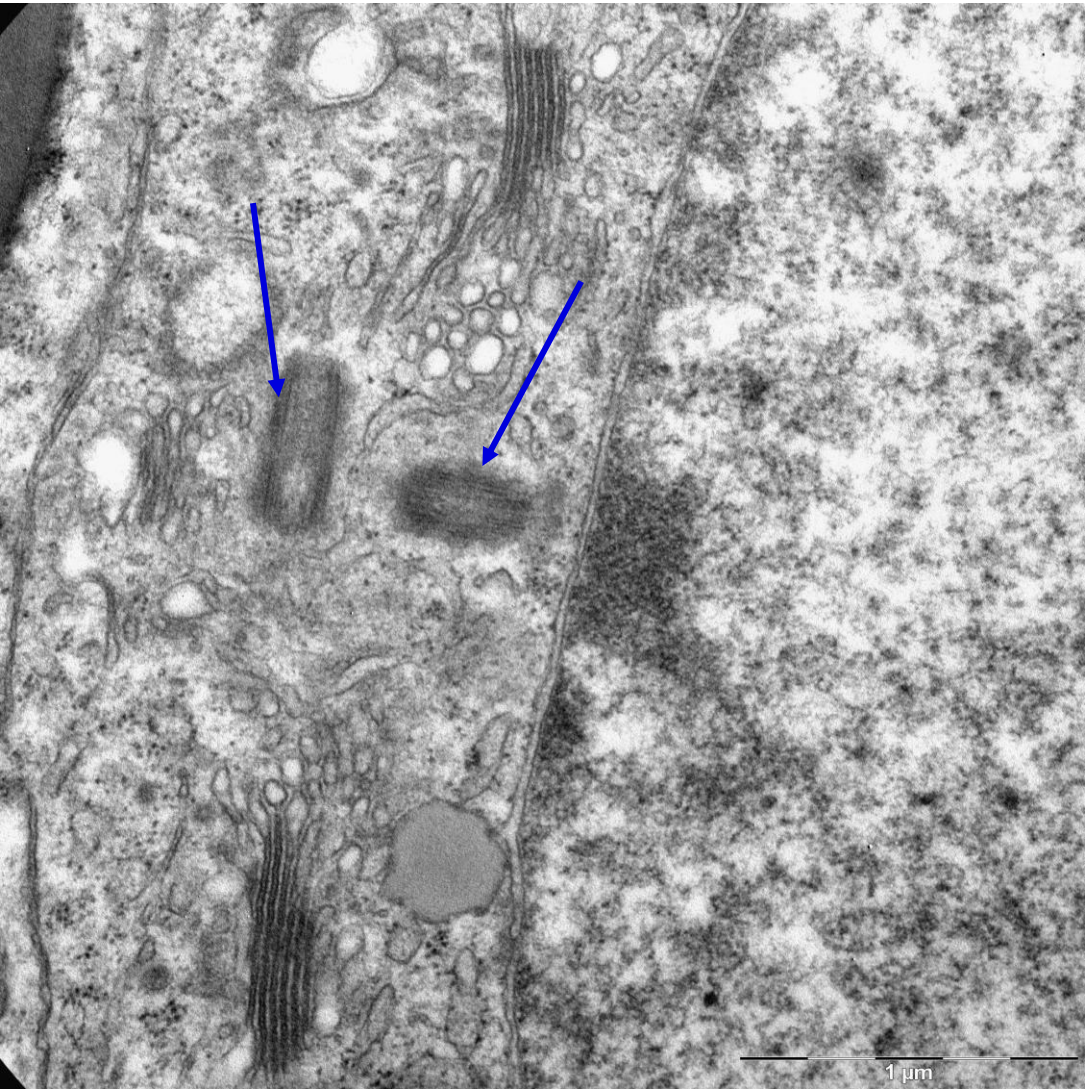
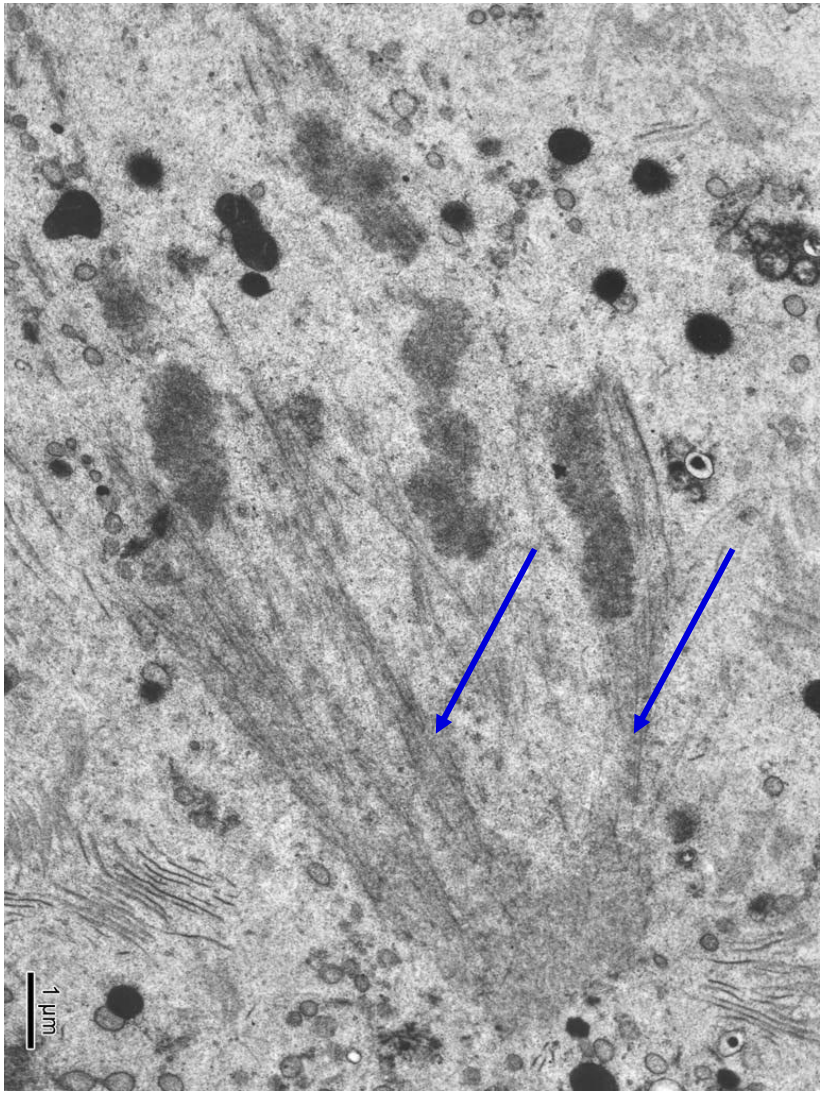

CENTROSOME
Mother Centriole
Distal Appendages
Microtubule
Sub-distal Appendage
Peri-centriolar Material
Interconnecting Fibres
Protofilament
Microtubule Triplet
Daughter Centriole
0,5 µm


0,5 µm

microtubules





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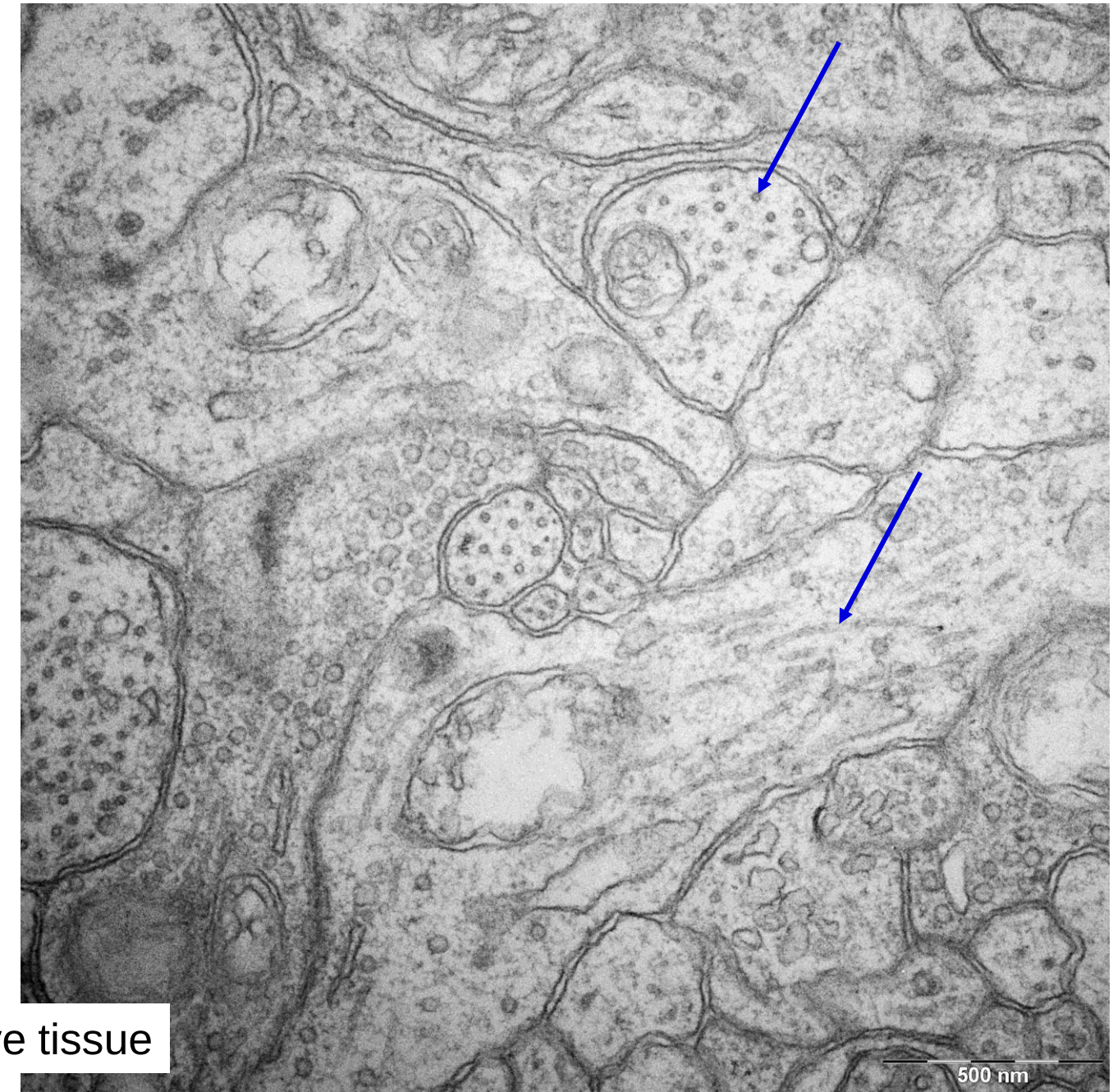
microtubules



nerve tissue

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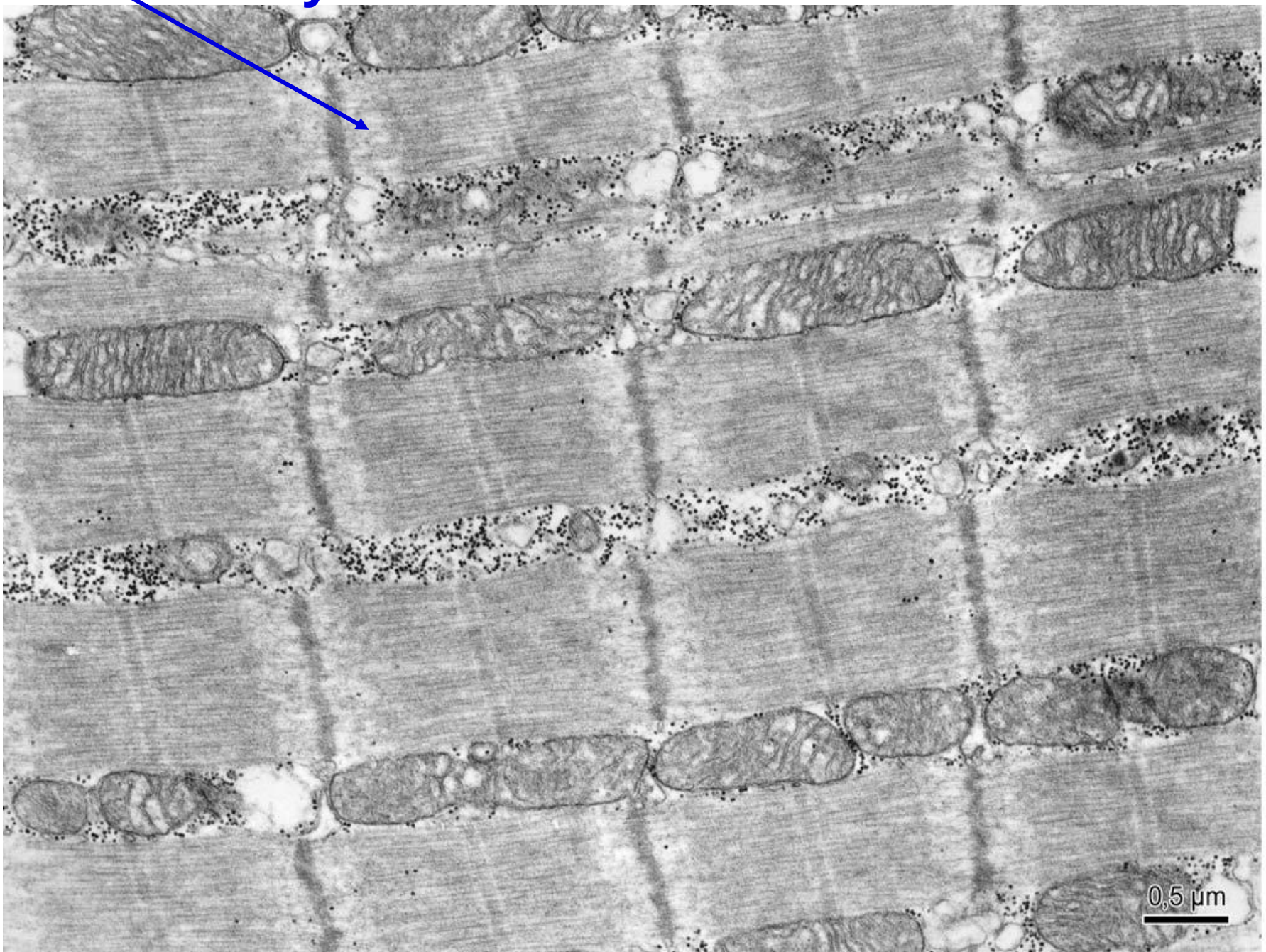
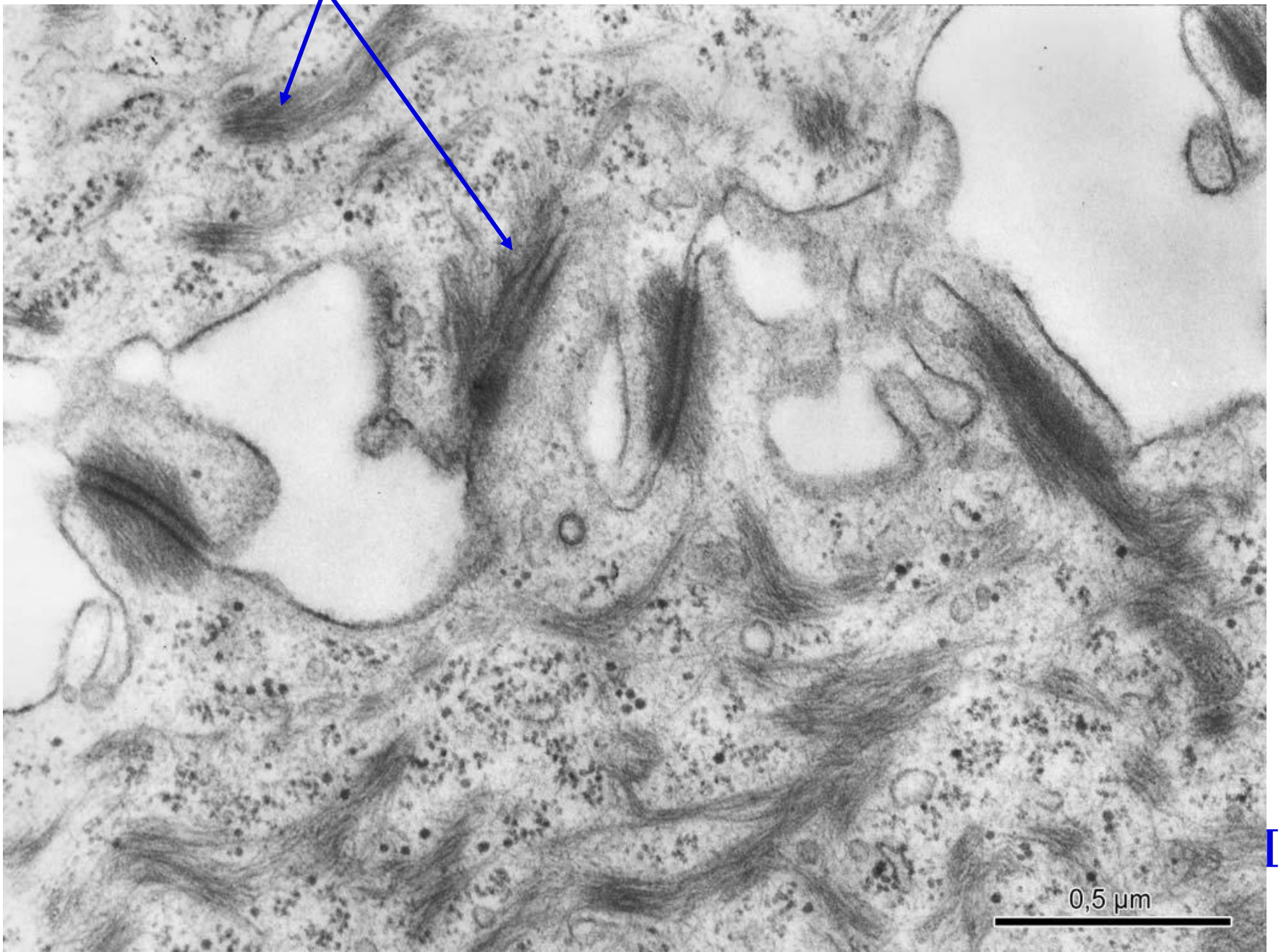
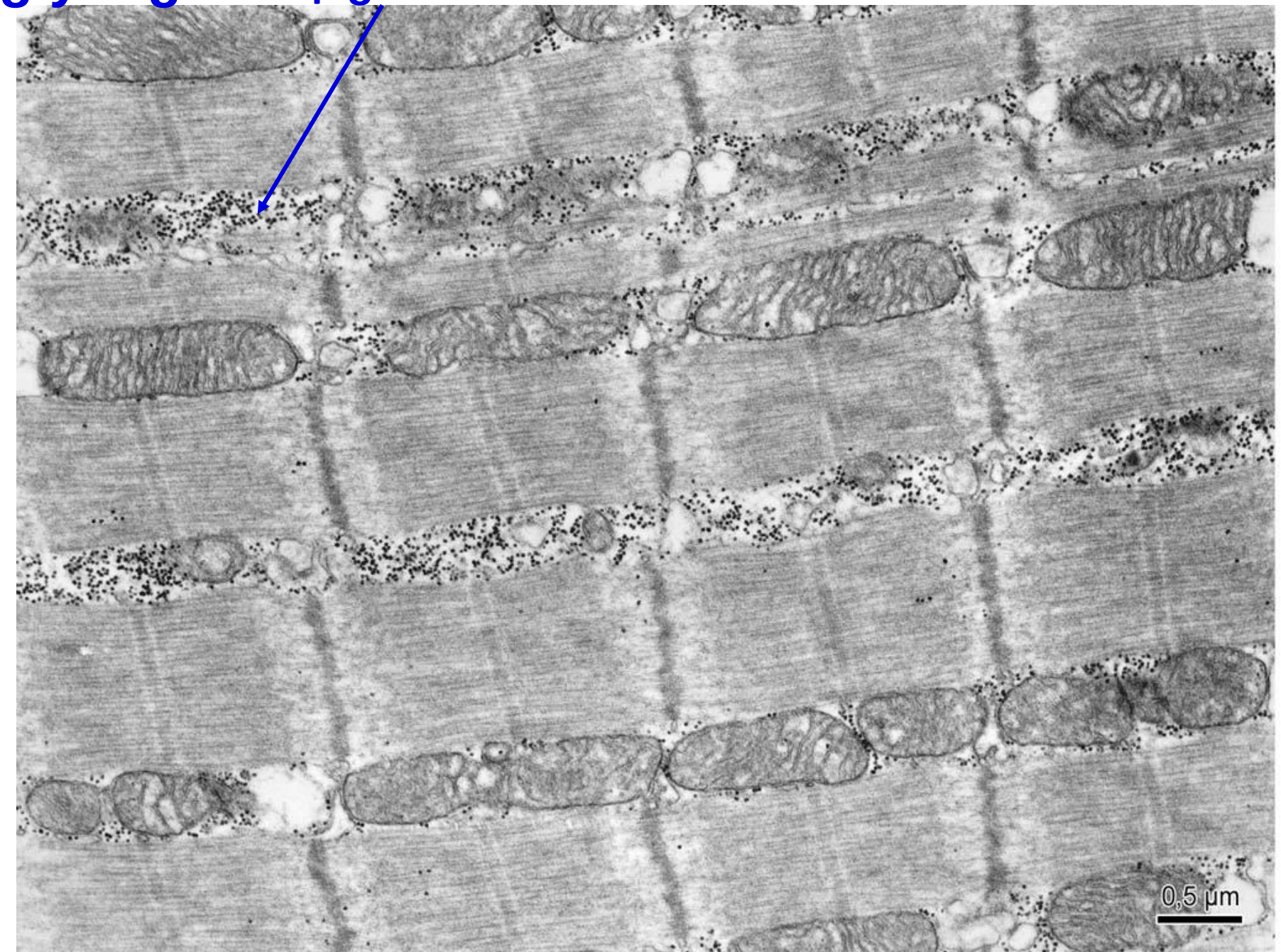
actin and myosin filaments



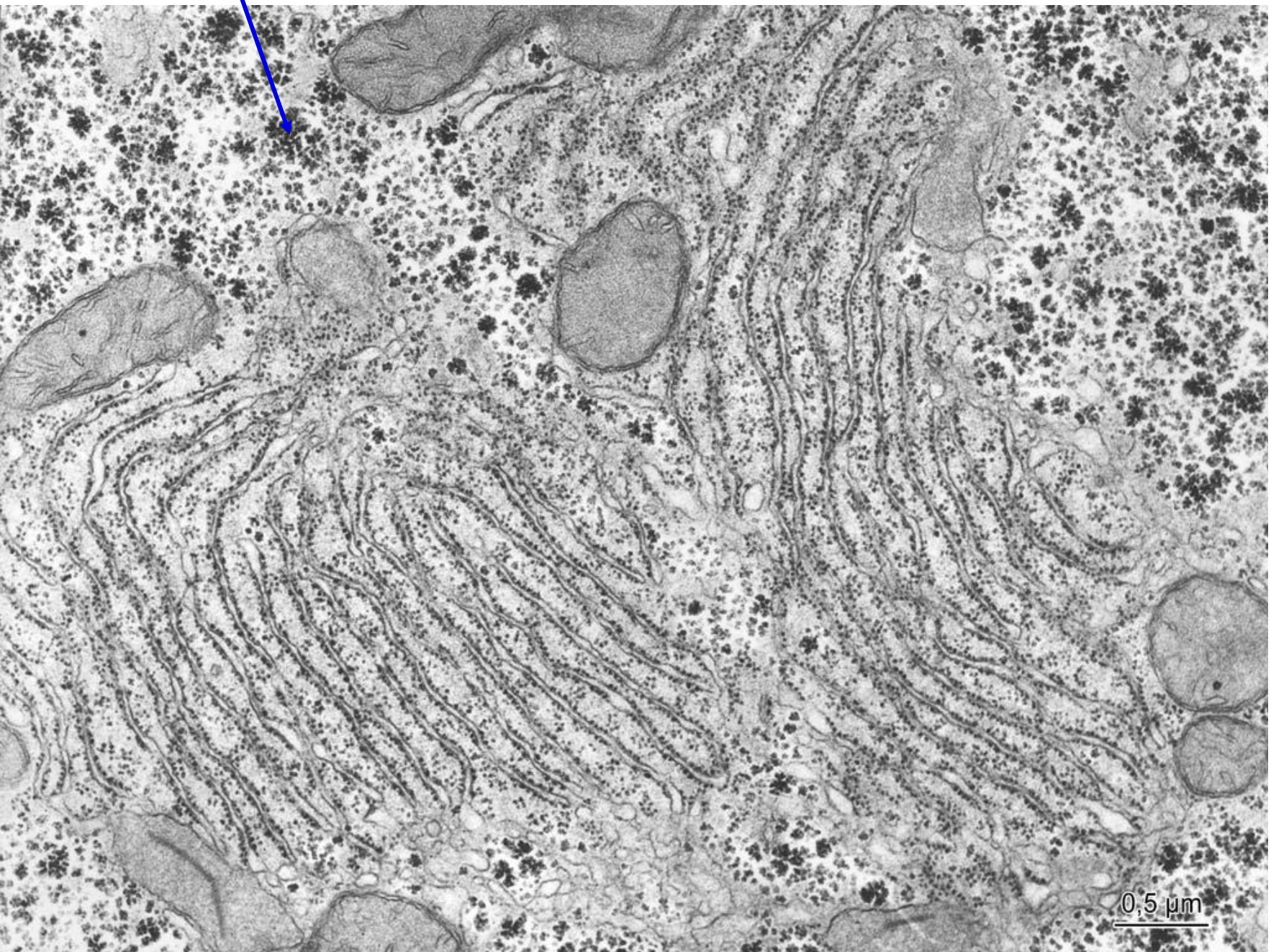
intermediate filaments



glycogen – β granules

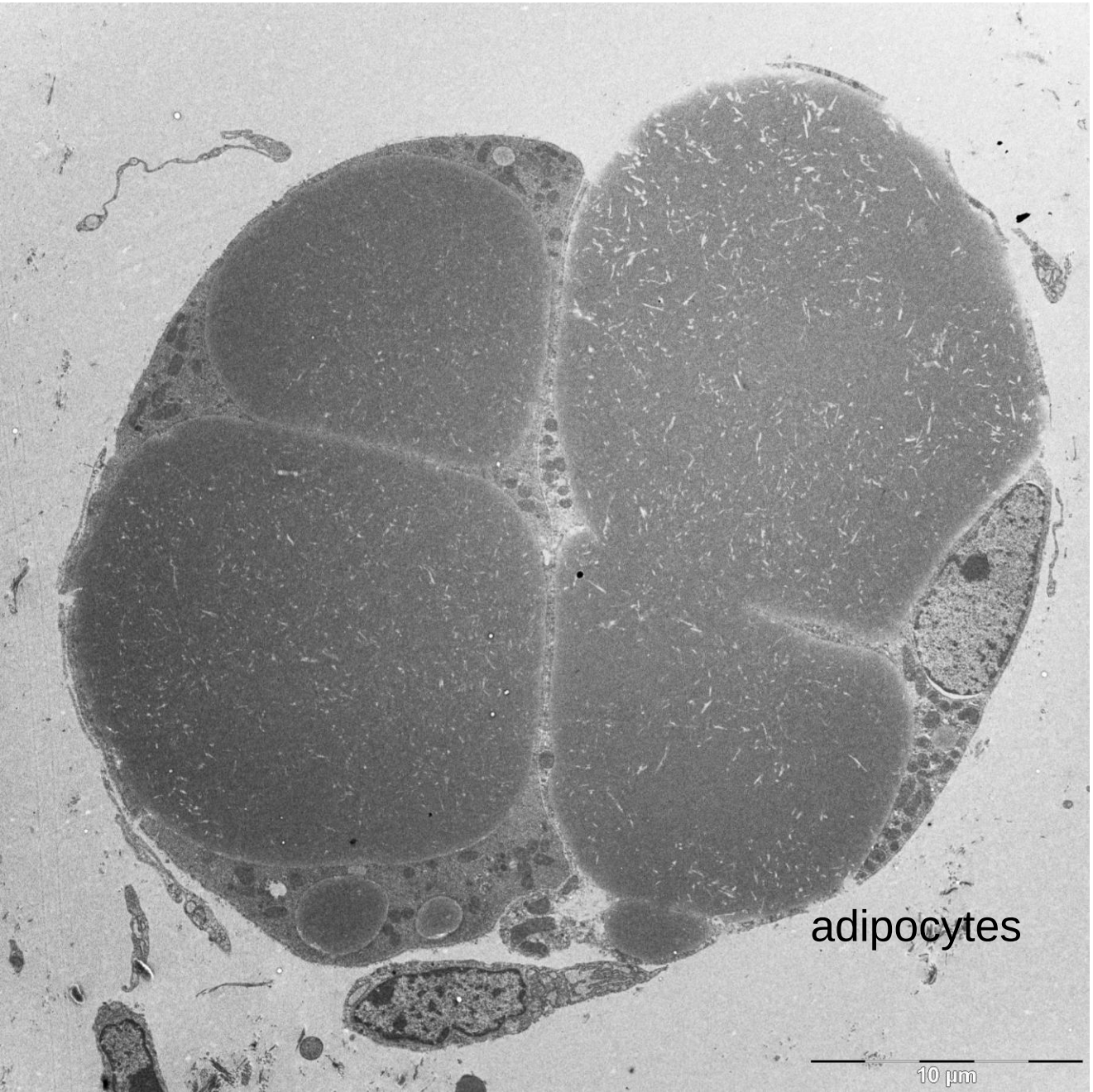


glycogen – α granules

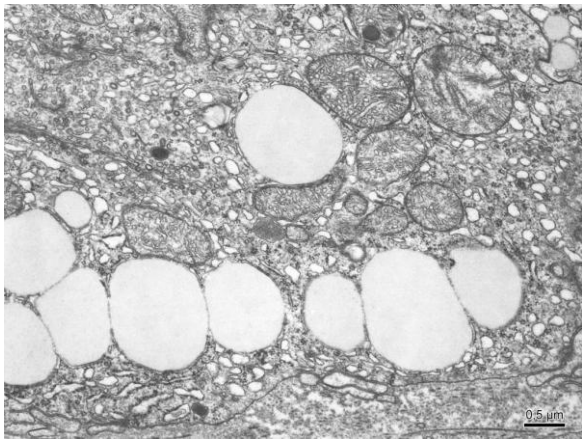


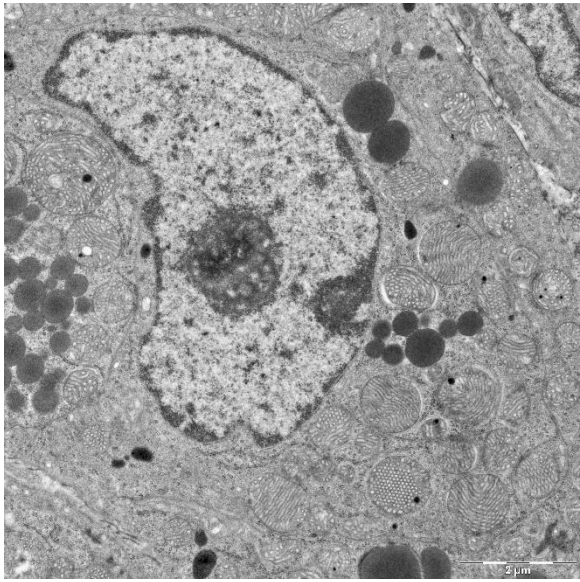
N I
D

lipid droplets



adipocytes





steroidogenic cells

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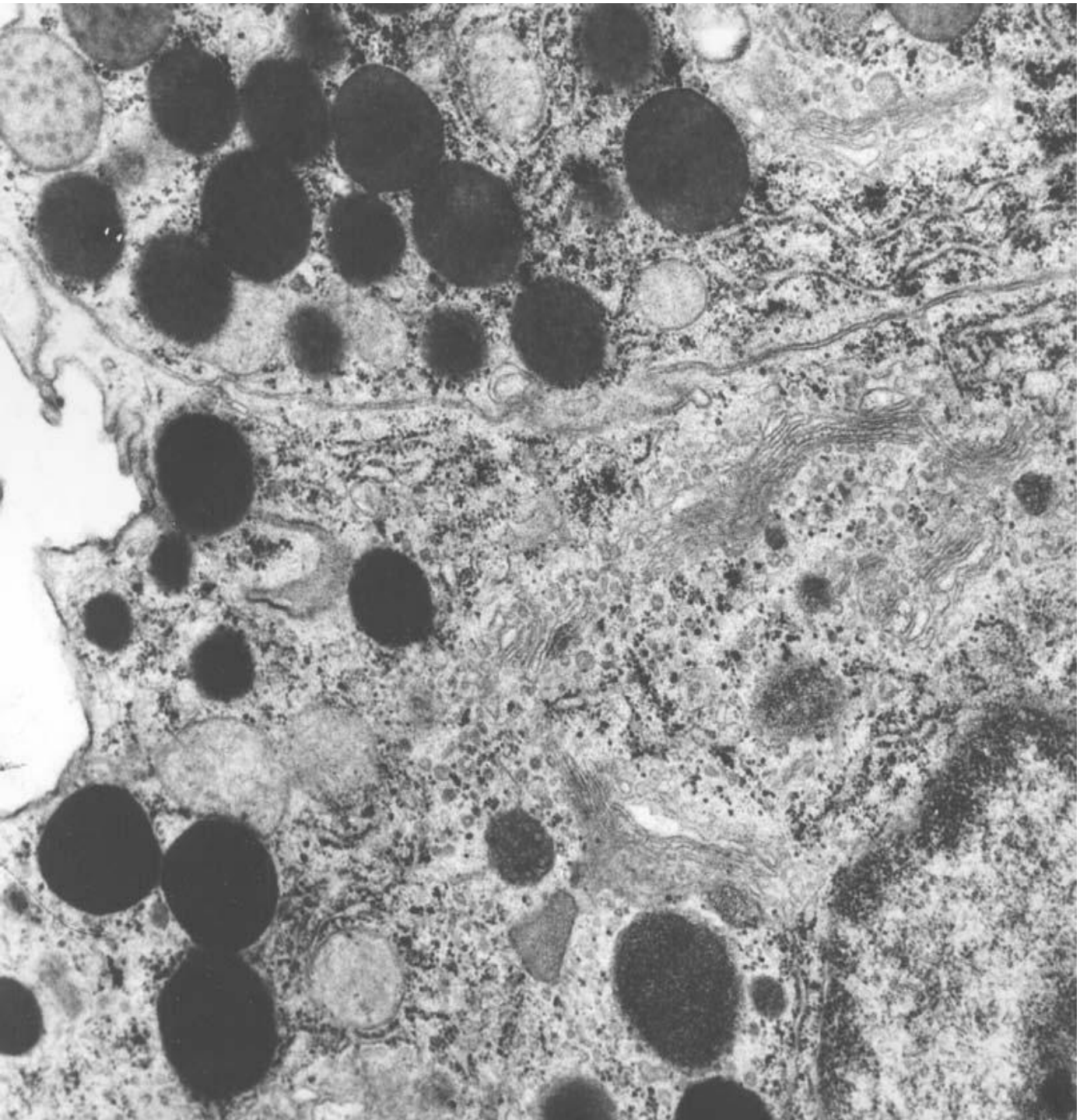
melanin granules

N I
D



secretory granules

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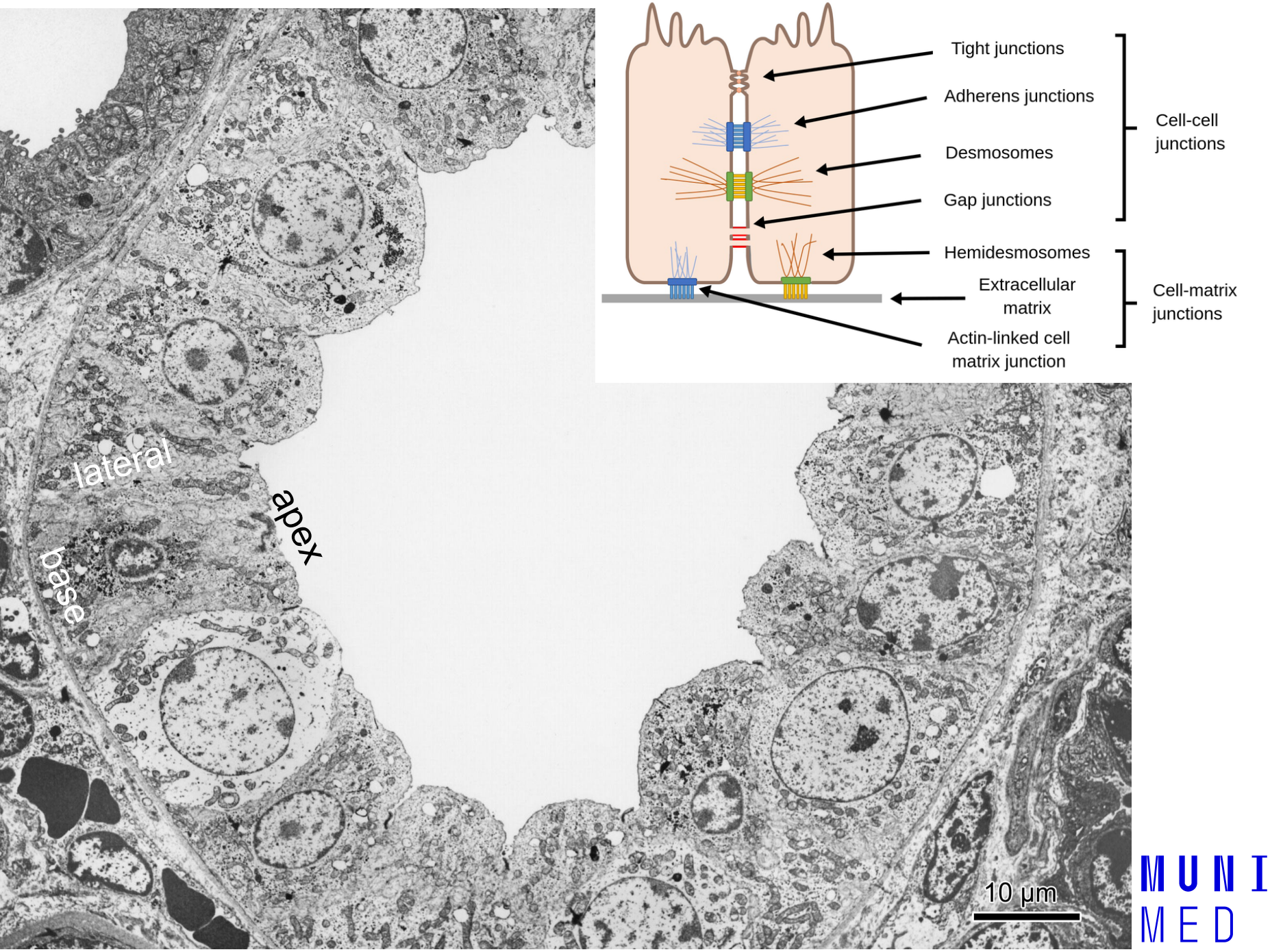
Tight junctions
Adherens junctions
Desmosomes
Gap junctions
Hemidesmosomes
Extracellular matrix
Actin-linked cell matrix junction
Cell-cell junctions
Cell-matrix junctions
lateral
apex
base
10 µm

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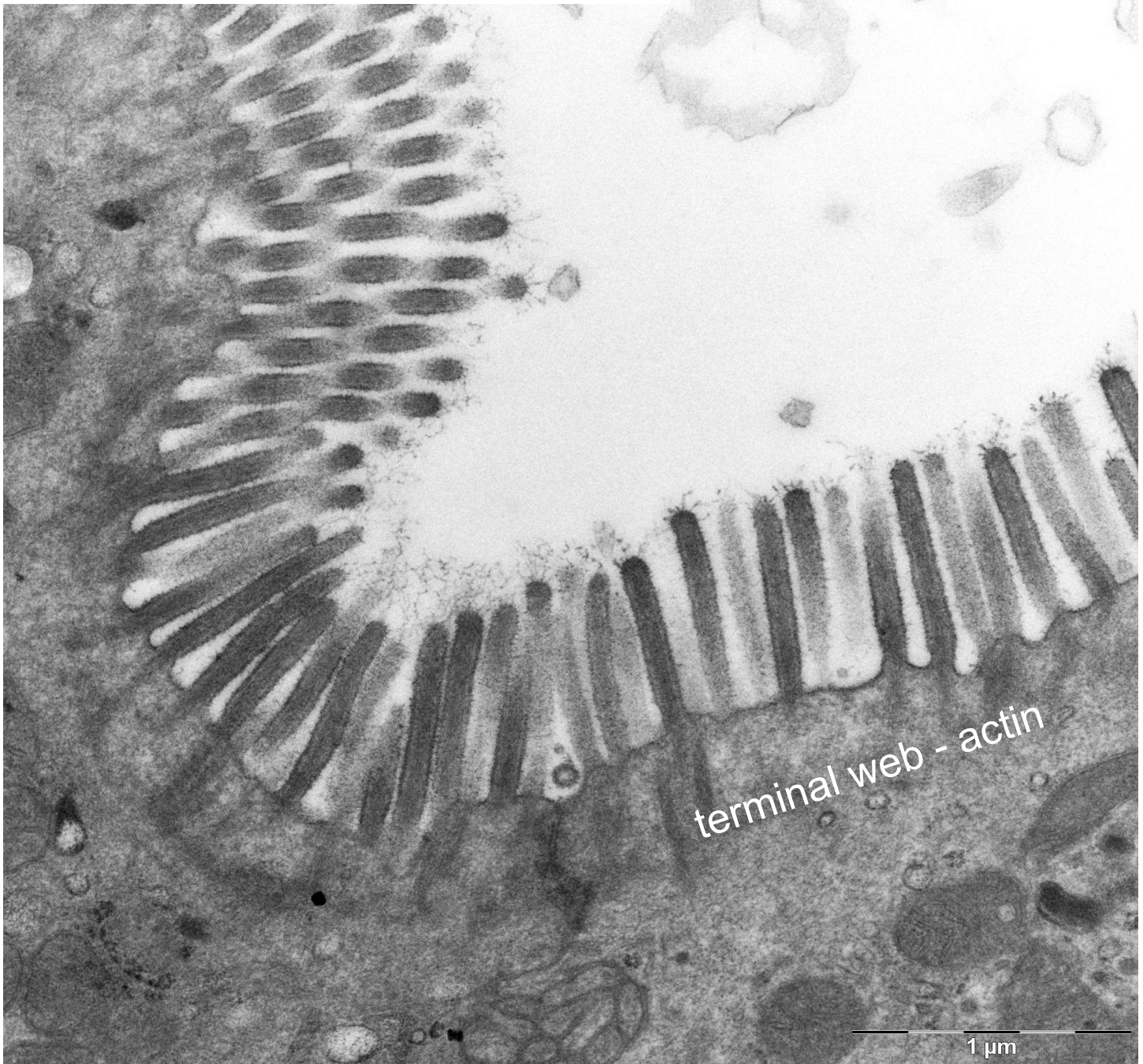
microvilli – striated border



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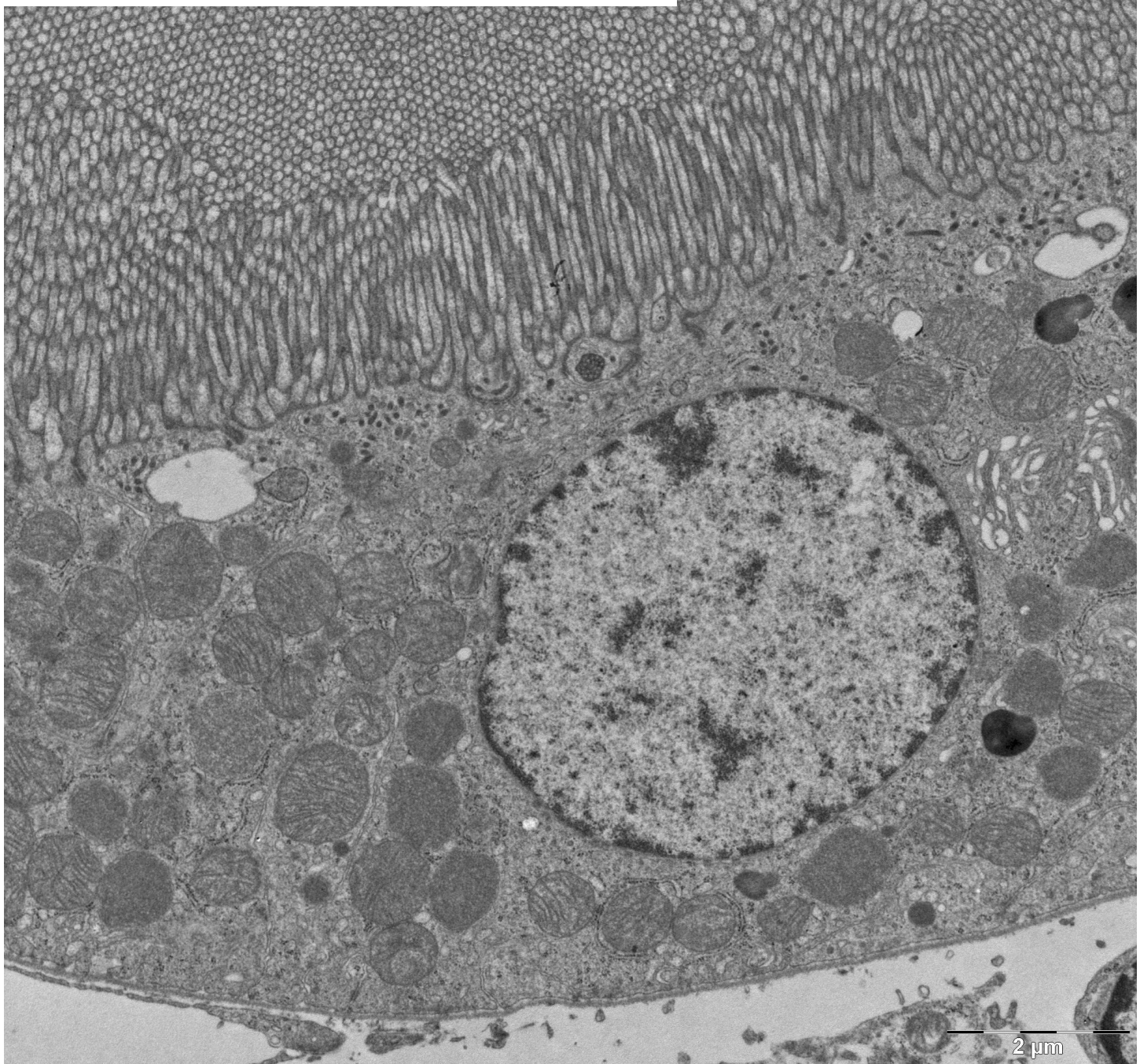
microvilli – brush border



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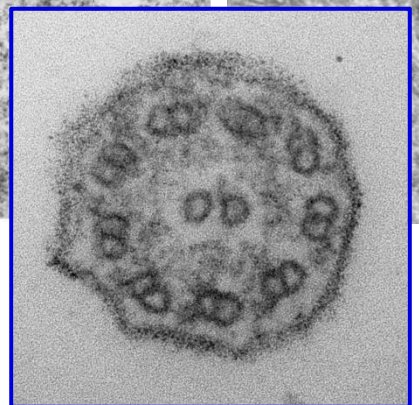
kinocilia



axoneme

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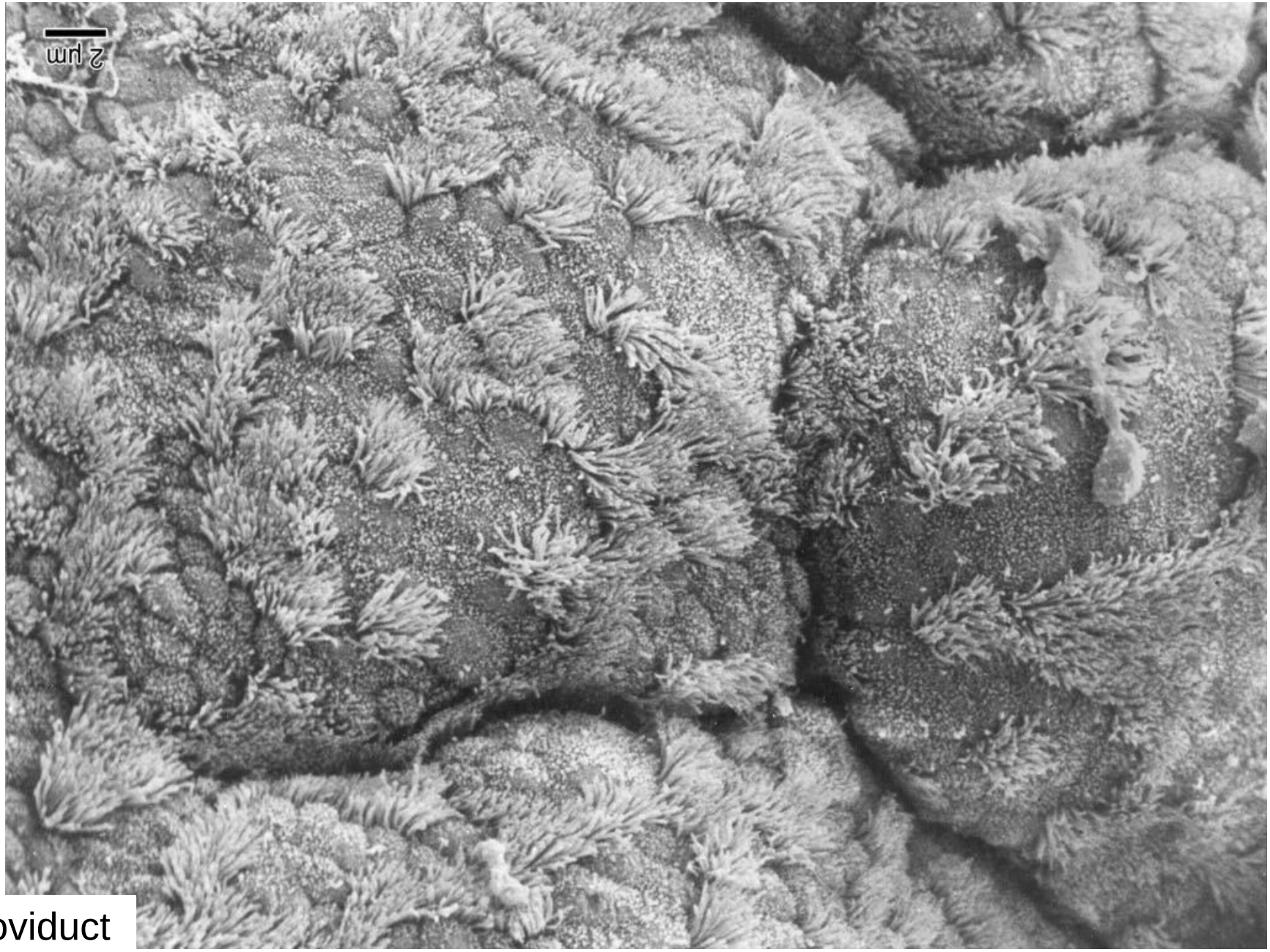
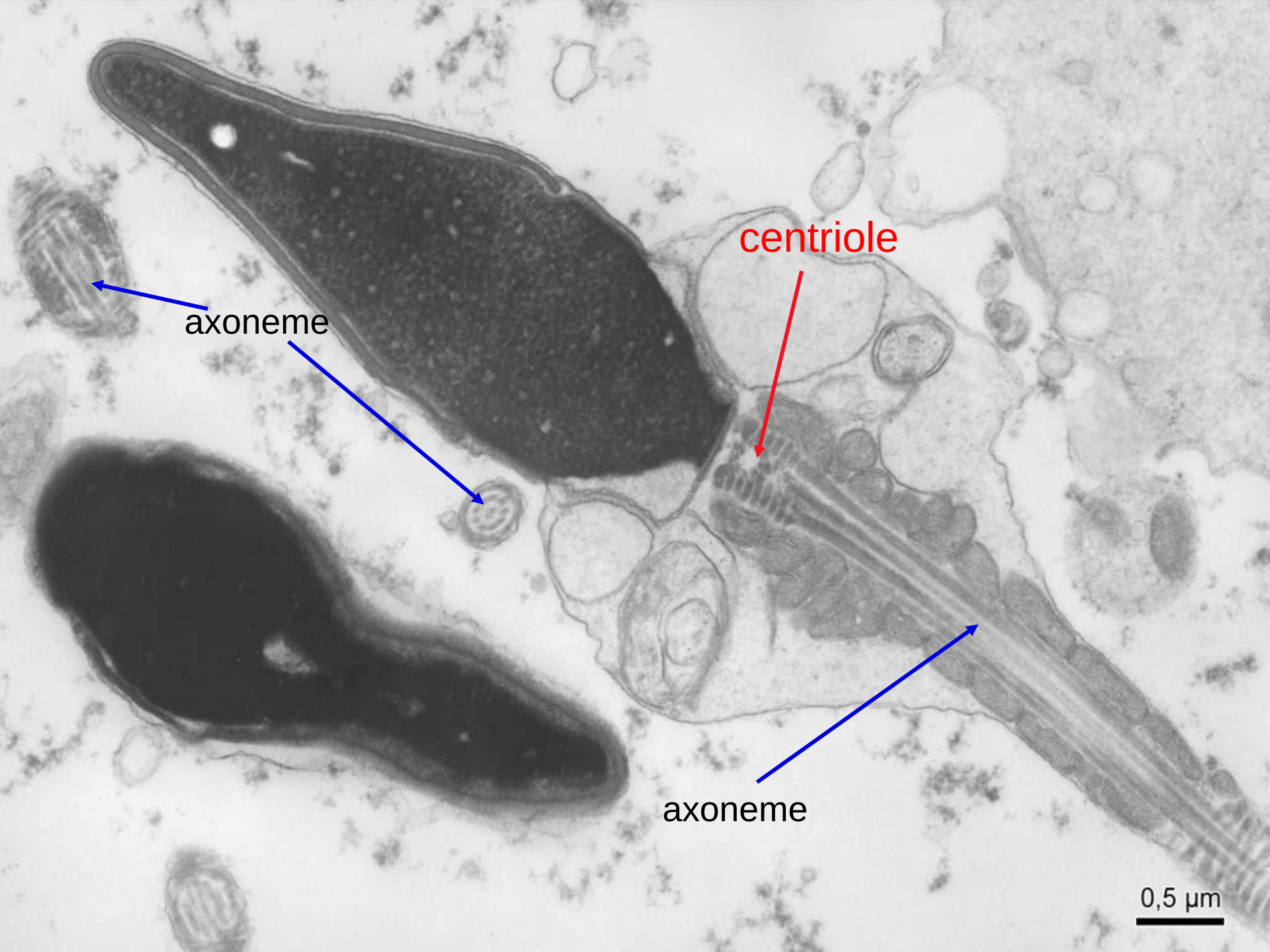
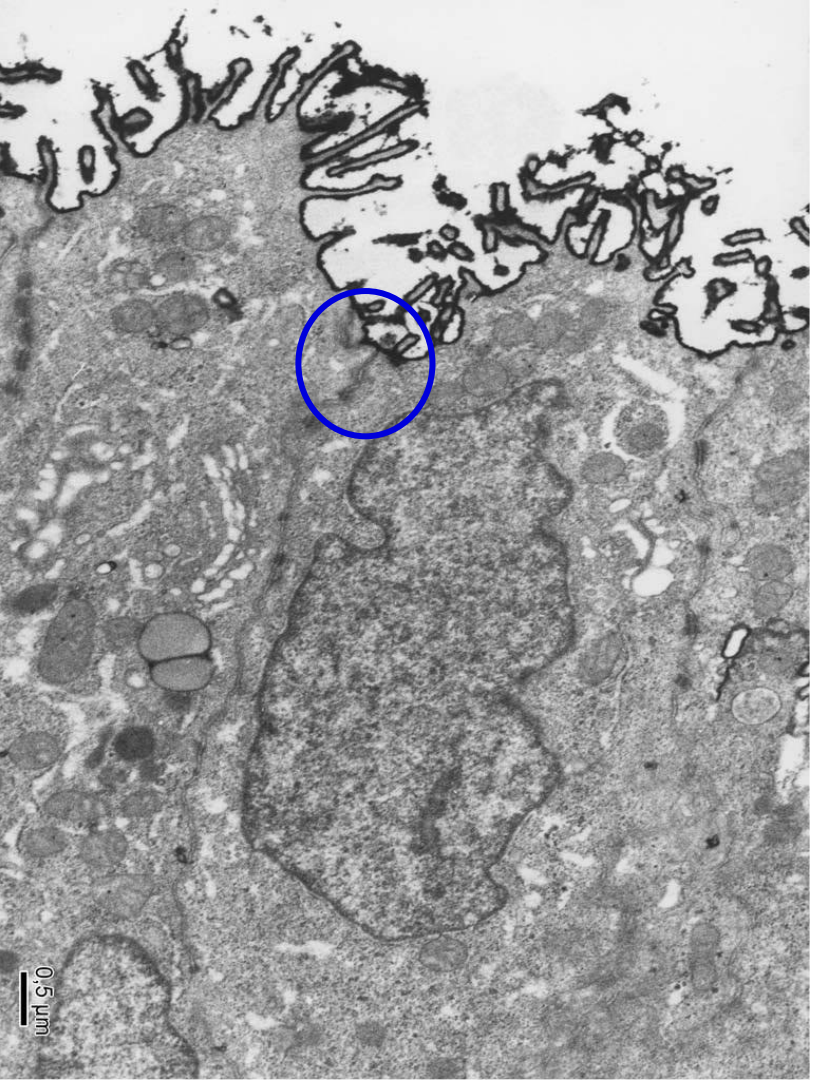
microvilli and kinocilia

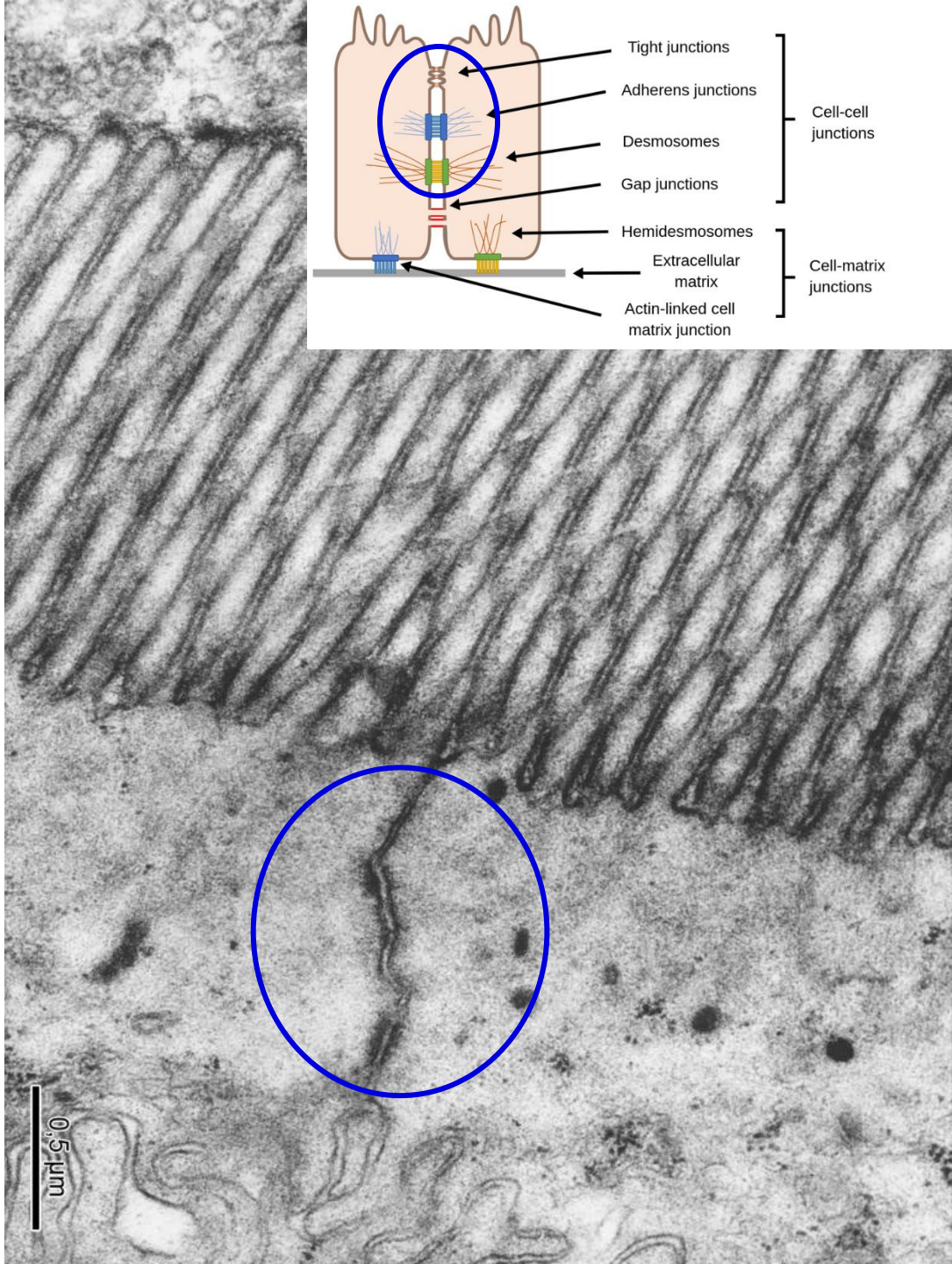


oviduct

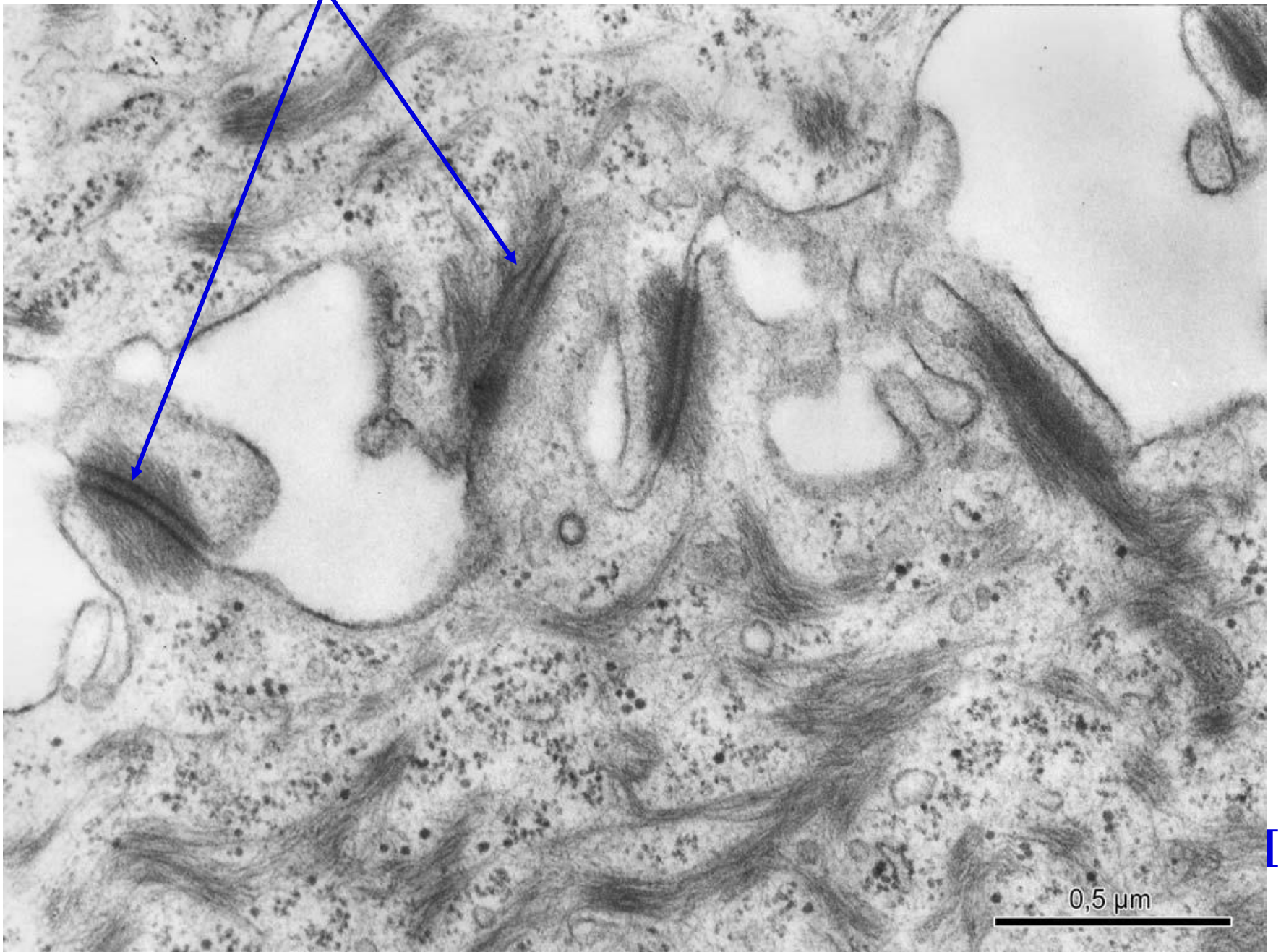

centriole
axoneme
axoneme
0,5 µm



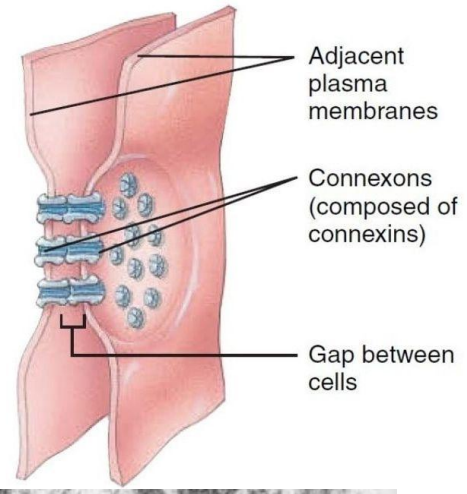
terminal bar



Desmosomes



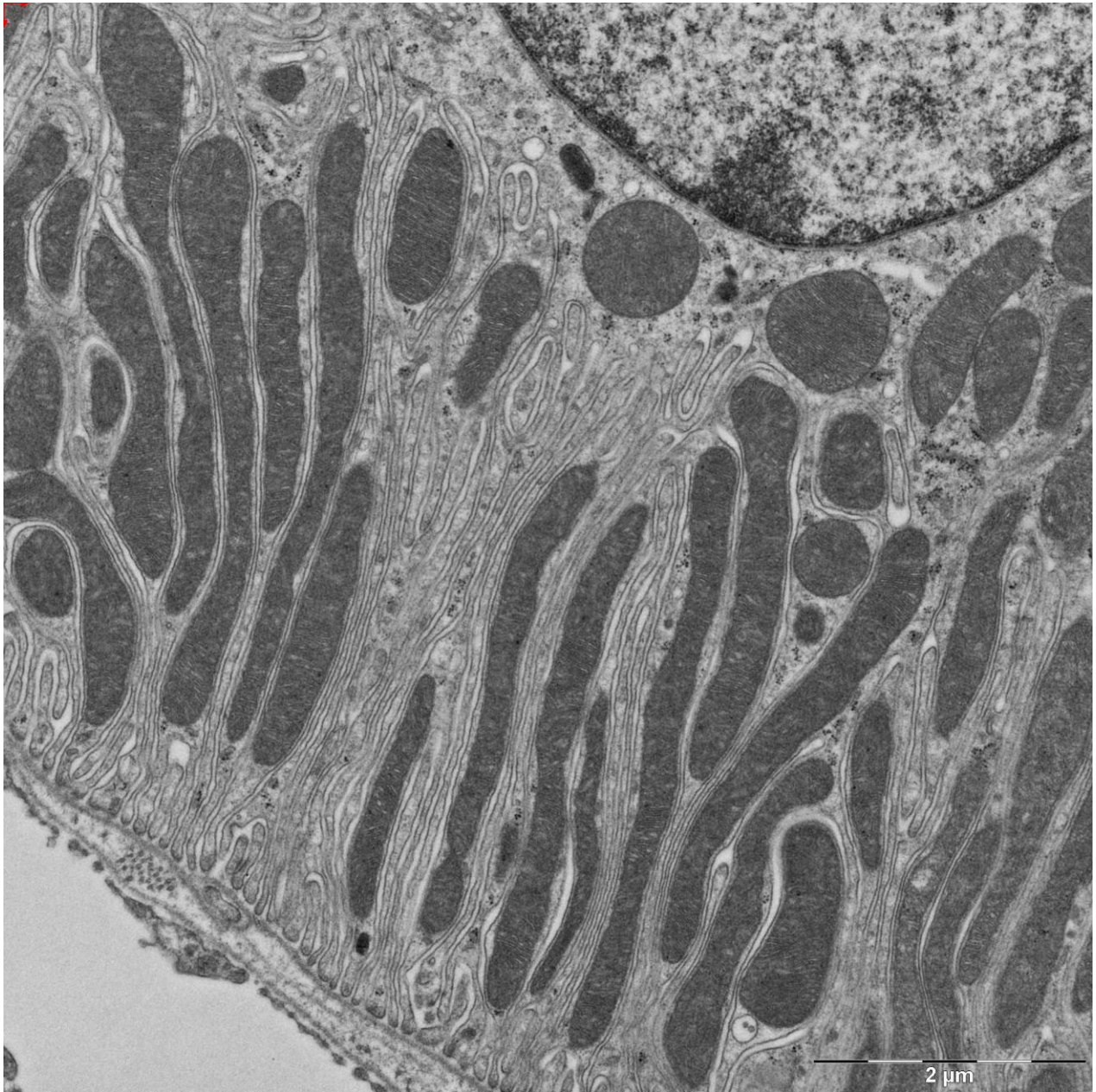
nexus


Adjacent plasma membranes
Connexons (composed of connexins)
Gap between cells

0,25 µm

basal labyrinth

– invaginations of membrane + mitochondria



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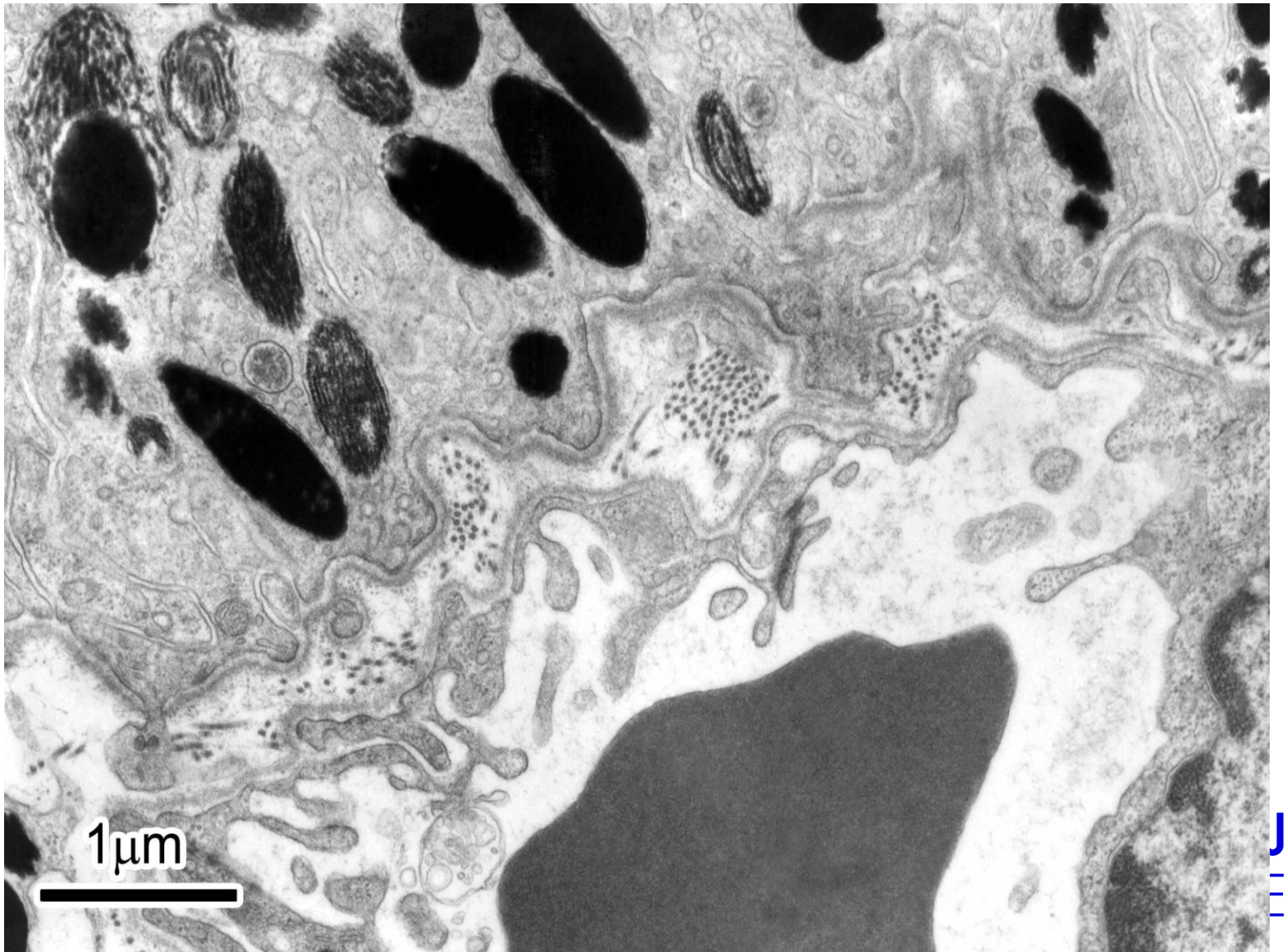
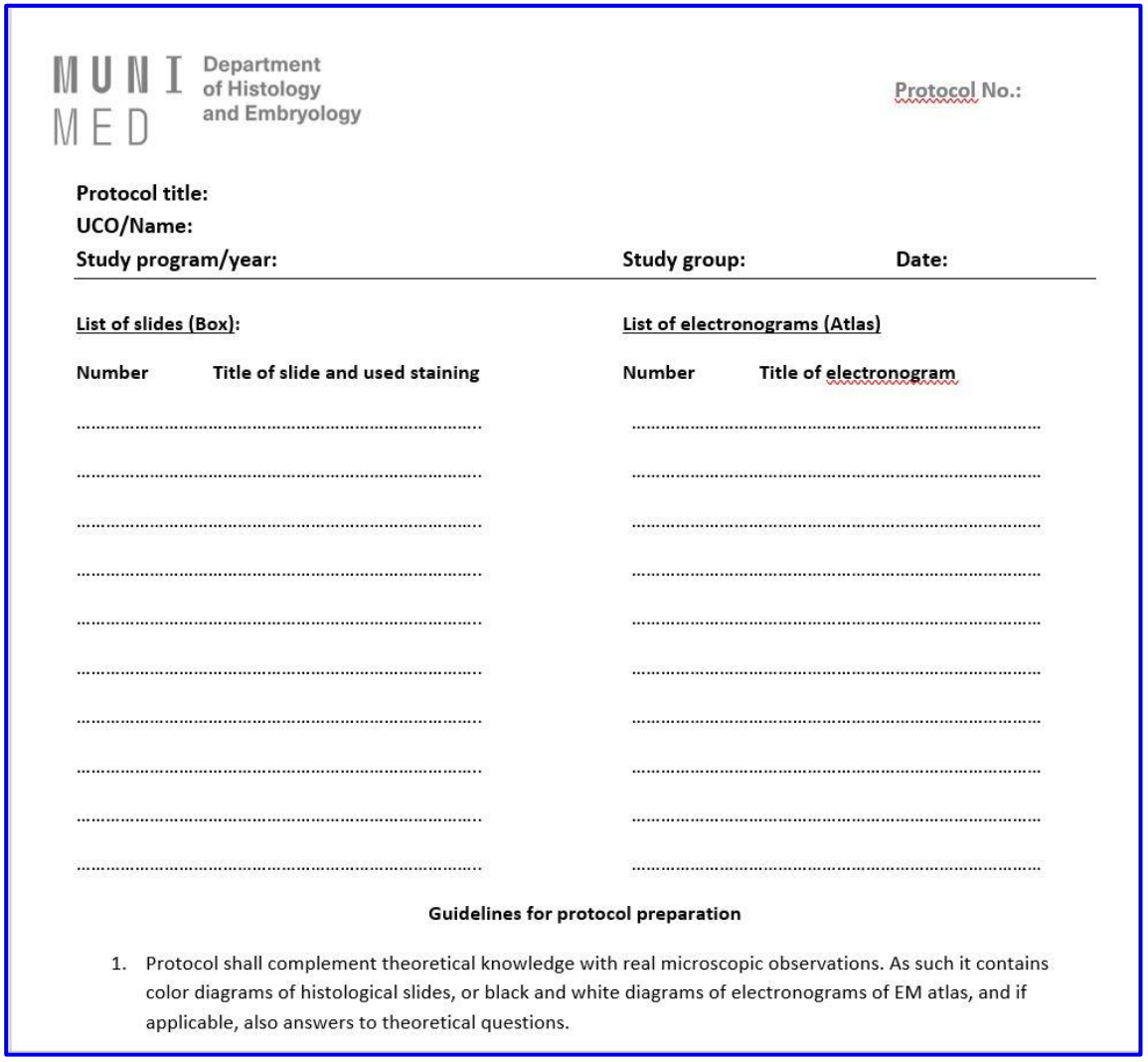
basement membrane

- *lamina basalis – lamina lucida + lamina densa*
- *lamina fibroreticularis*



CYTOLOGY II

- cytoskeleton
  - actin filaments
  - intermediate filaments
  - microtubules
- centriol
- cell inclusions
  - glycogen (α- and β- granules)
  - lipid droplets
- cell surfaces
- microvilli
- kinocilia
- terminal bar
- desmosome
- nexus
- basal labyrinth
- basement membrane



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Protocol No.:

Protocol title:
UCO/Name:
Study program/year: **Study group:** **Date:**

List of slides (Box):

Number	Title of slide and used staining
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List of electronograms (Atlas)

Number	Title of electronogram
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Guidelines for protocol preparation

1. Protocol shall complement theoretical knowledge with real microscopic observations. As such it contains color diagrams of histological slides, or black and white diagrams of electronograms of EM atlas, and if applicable, also answers to theoretical questions.

Atlas: pages **12-27**

Web: https://is.muni.cz/do/rect/el/estud/lf/js18/histologie_atlas/web/atlas_OH_en.html?chapter=0

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