

NERVOUS TISSUE AND NEUROPEPTIDE TRANSPORT FROM THE SOMA TO THE SYNAPSE



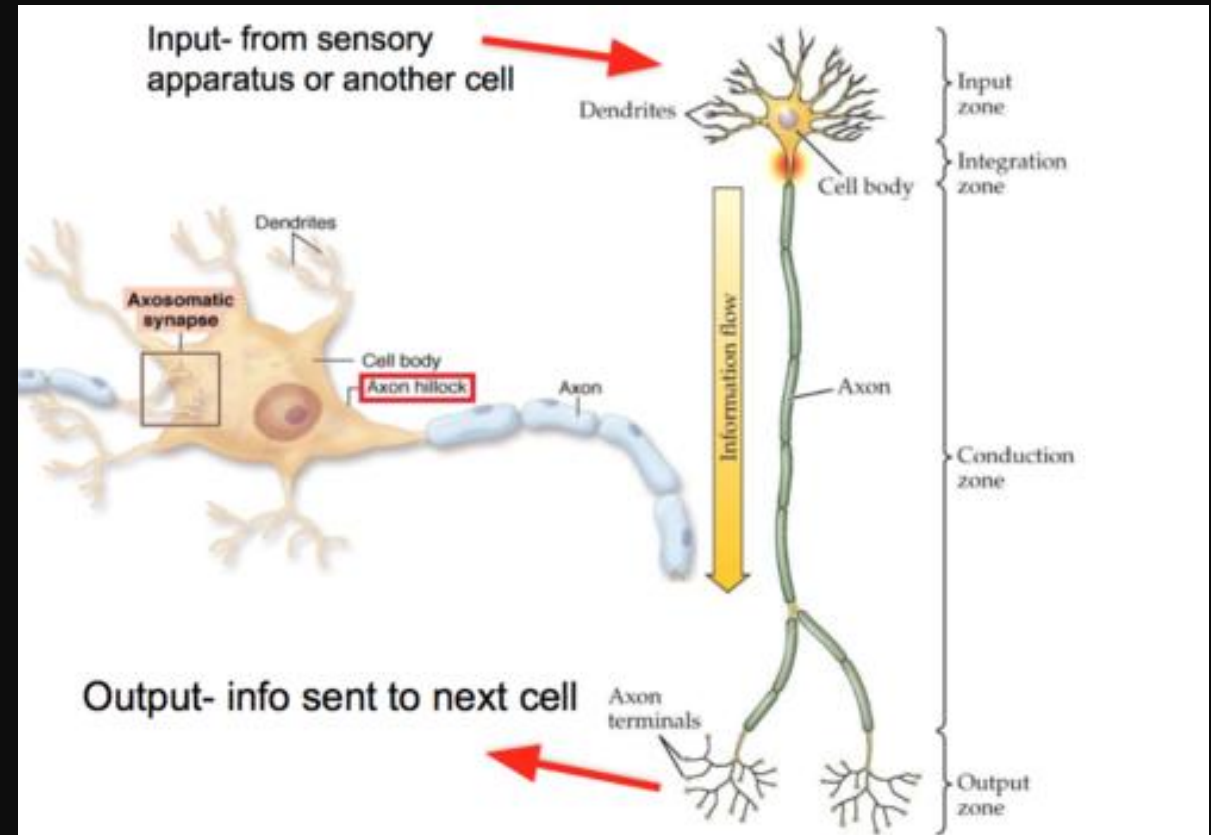
NEURONS AND GLIAL CELLS: FUNCTIONAL ORGANIZATION

NEURON:

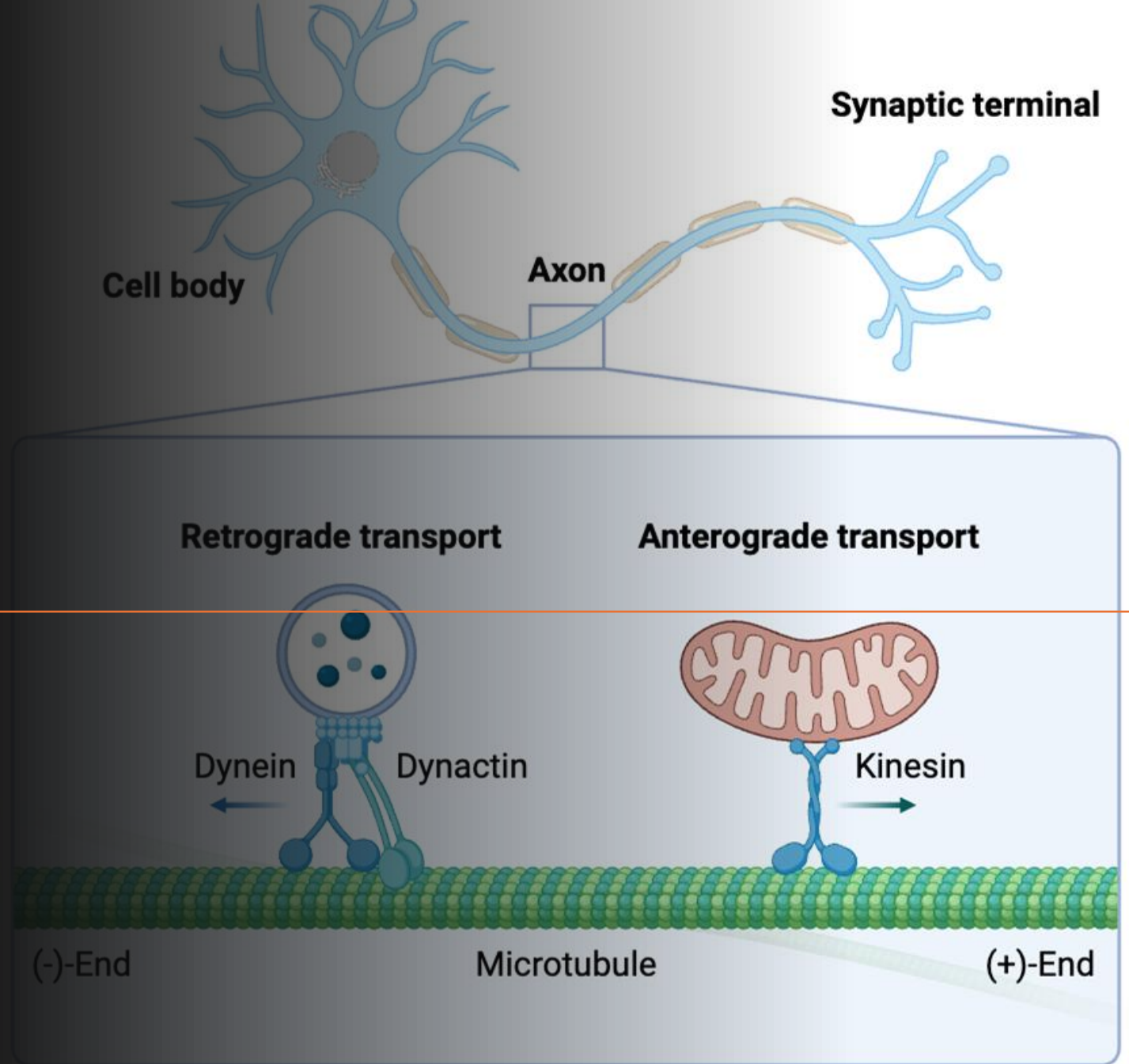
Soma – Dendrites – Axon – Synaptic terminal

GLIAL CELLS:

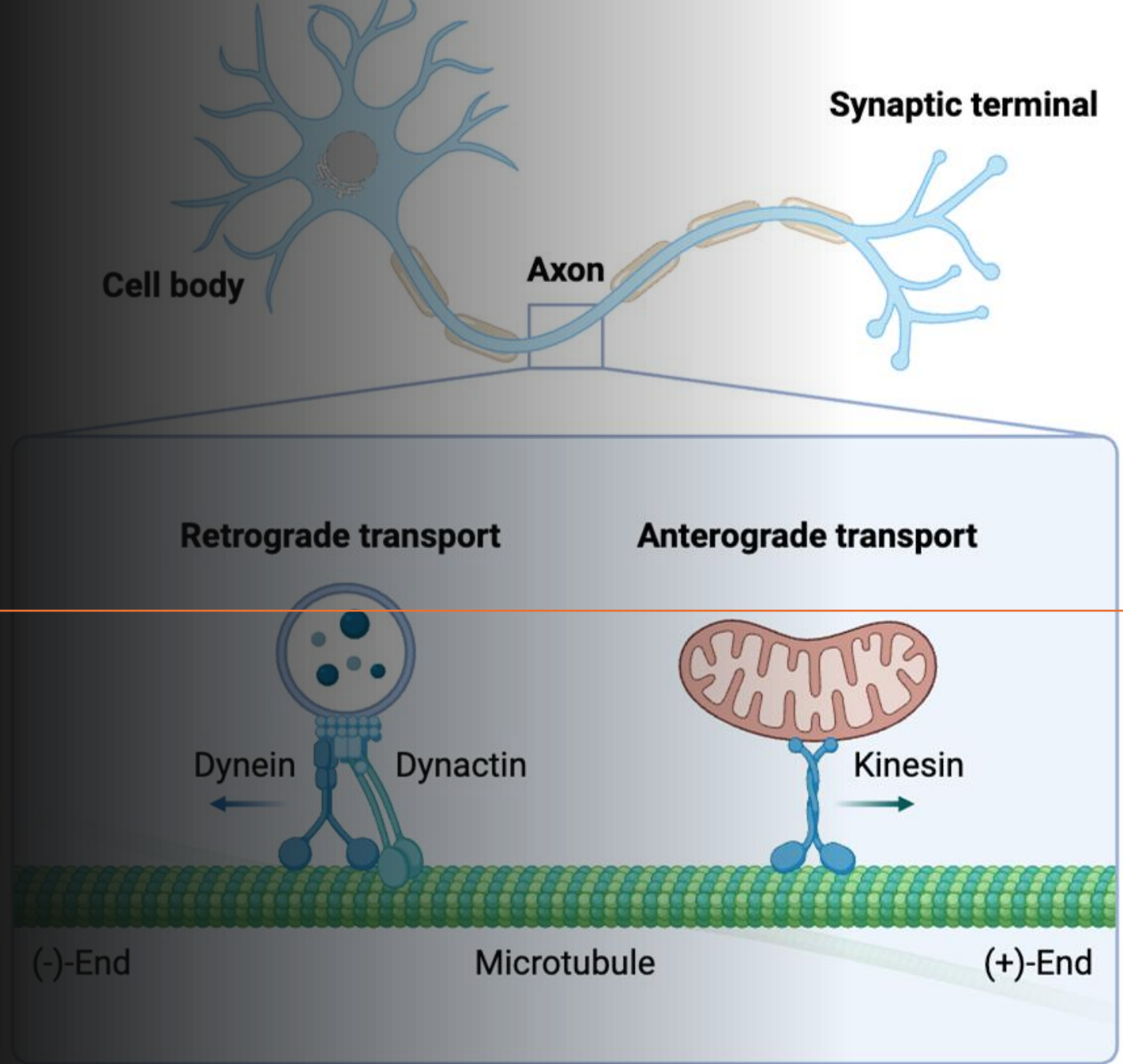
Oligodendrocytes and Schwann cells

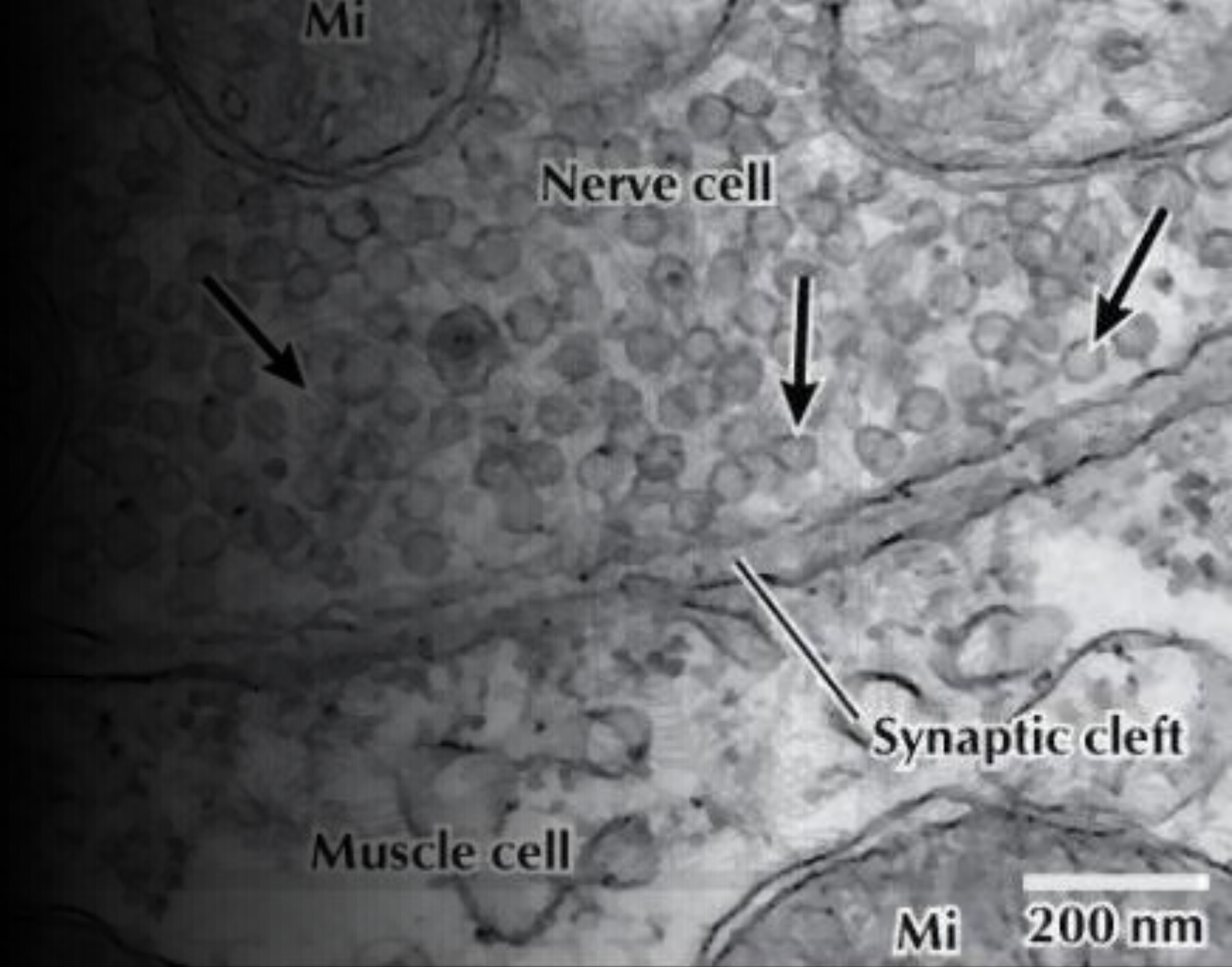


BIOSYNTHESIS AND TRANSPORT OF NEUROPEPTIDES



AXONAL TRANSPORT





SYNAPTIC EXOCYTOSIS AND
NEUROTRANSMITTER RELEASE

Mi

Nerve cell

Muscle cell

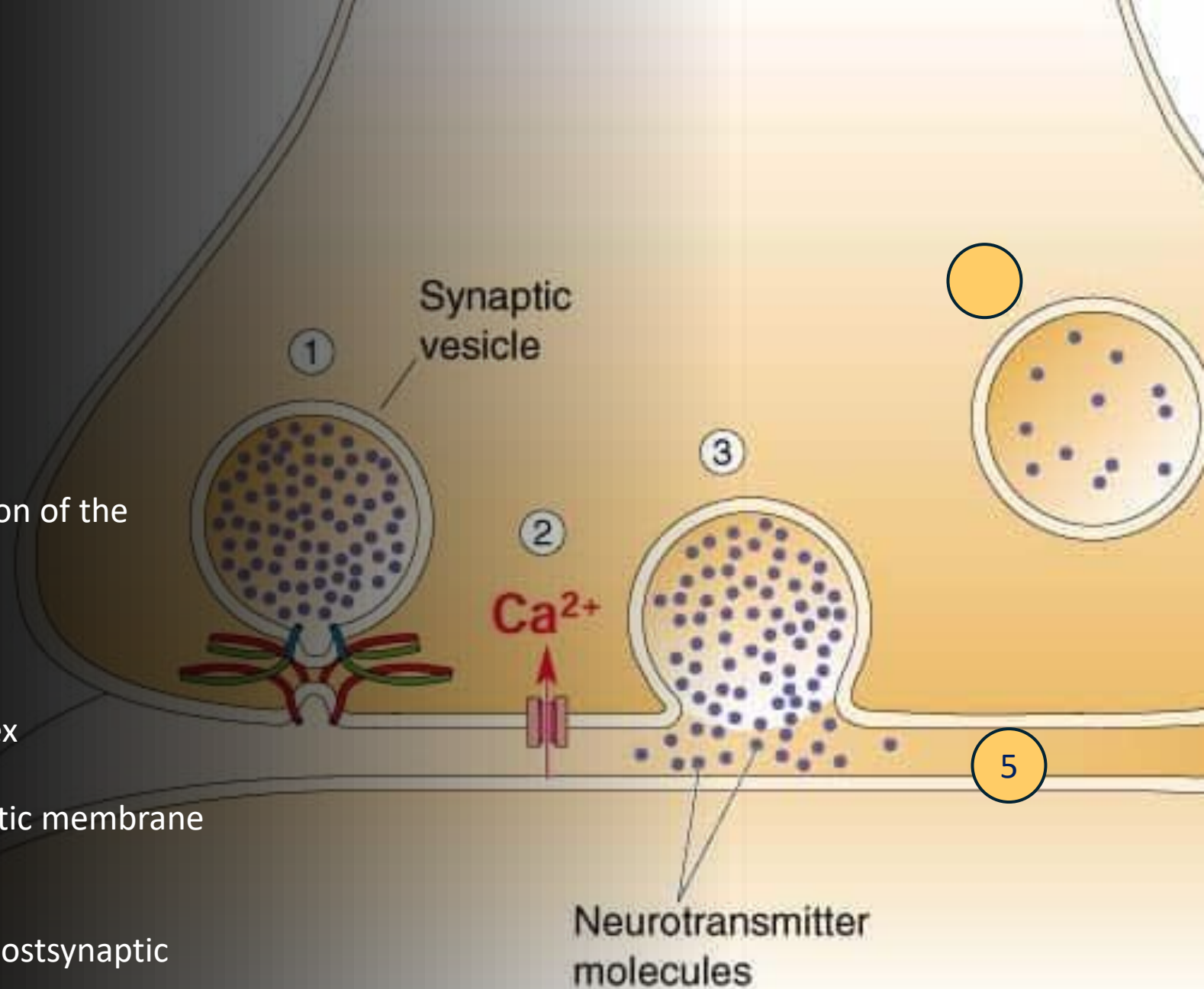
Synaptic cleft

Mi

200 nm

BASIC MECHANISM OF EXOCYTOSIS:

1. Arrival of the action potential → depolarization of the presynaptic terminal
2. Opening of voltage-gated Ca^{2+} channels
3. Ca^{2+} influx → activation of the SNARE complex
4. Fusion of synaptic vesicles with the presynaptic membrane → release of contents
5. Neurotransmitters bind to receptors on the postsynaptic neuron



FROM THE SOMA TO THE SYNAPSE:

