

Nerve Impulse = Electrical Impulse
Neuron = Nerve Cell

The Neuron

- made up of 3 main regions - dendrites, cell body + axon

Neuron - specialized cells that help you gather information about the environment, interpret the information, + react to it.

- long threadlike cells that carry electrochemical signals

- 3 Types of Neurons

- A. Sensory
- B. Interneurons
- C. Motor

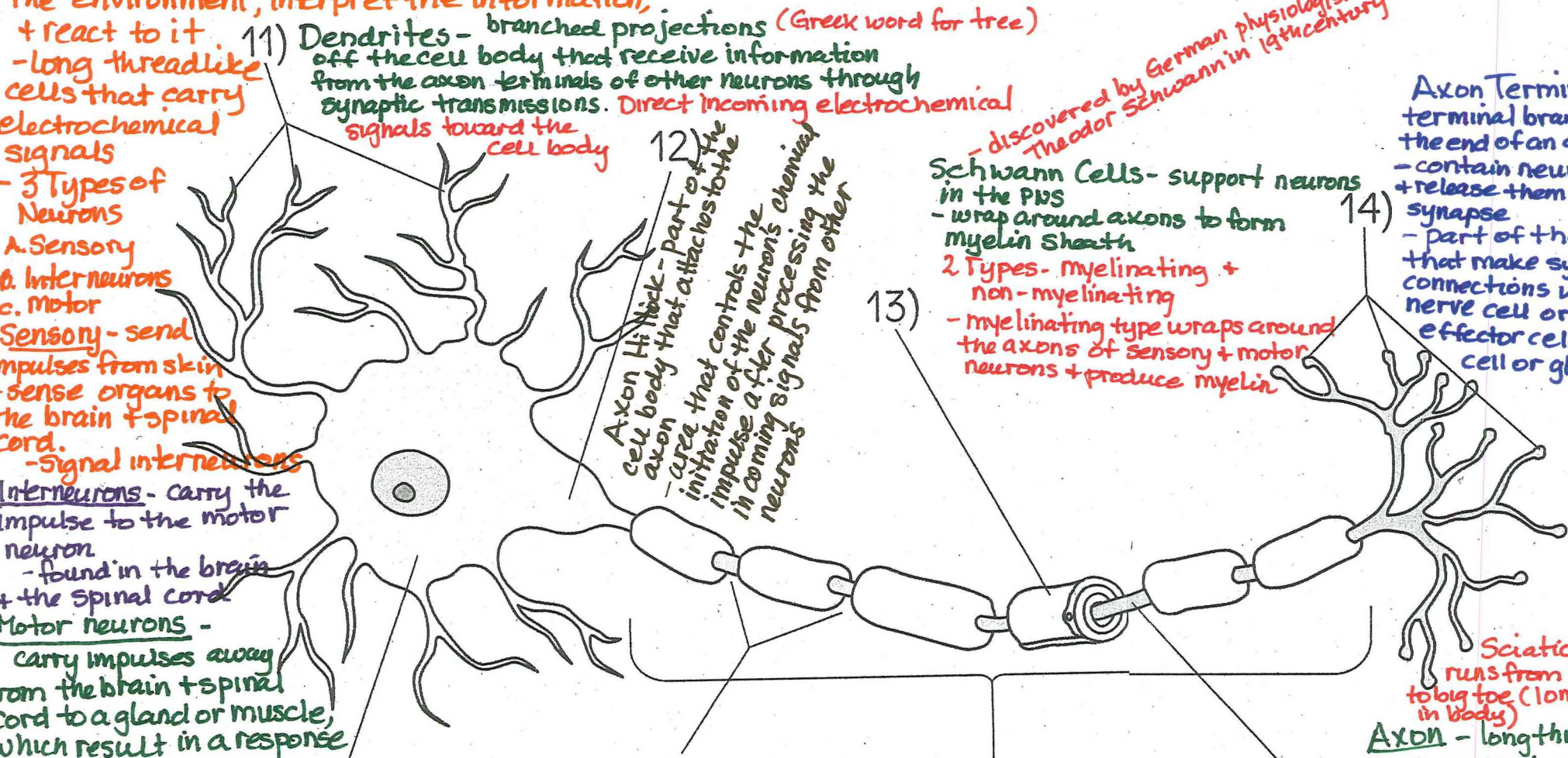
Sensory - send impulses from skin + sense organs to the brain + spinal cord.
- signal interneurons

Interneurons - carry the impulse to the motor neuron
- found in the brain + the spinal cord

Motor neurons - carry impulses away from the brain + spinal cord to a gland or muscle, which result in a response

Cell Body = Soma (15)

- part of a neuron that contains the nucleus and the majority of the organelles
- contains cytoplasm, mitochondria, a nucleus + other organelles



11) Dendrites - branched projections (Greek word for tree) off the cell body that receive information from the axon terminals of other neurons through synaptic transmissions. Direct incoming electrochemical signals toward the cell body

12) Axon Hillock - part of the cell body that attaches to the axon
- area that controls the initiation of the neuron's chemical impulse + fiber processing the incoming signals from other neurons

- discovered by German physiologist Theodor Schwann in 19th century

Schwann Cells - support neurons in the PNS
- wrap around axons to form myelin sheath
2 Types - myelinating + non-myelinating
- myelinating type wraps around the axons of sensory + motor neurons + produce myelin

Axon Terminals - terminal branch points at the end of an axon
- contain neurotransmitters + release them at the synapse
- part of the nerve cell that make synaptic connections with another nerve cell or with an effector cell (muscle cell or gland cell)

Sciatic Nerve - runs from base of spine to big toe (longest axon in body)

Axon - long threadlike structure that conducts electrical impulses away from the cell body towards another neuron

16) Nodes of Ranvier - (1µm) gaps in the myelin sheath (between the Schwann cells) + are 1µm wide
- The Action Potential can jump from node to node causing transmission speed to increase
- the axon at the Node of Ranvier are uninsulated

17) Myelin Sheath - sleeves of fatty tissue that protects nerve cells (Multiple Sclerosis - has damaged myelin sheath)
- protects the axon
- found in sensory + motor neurons
- supports + conserves the electrical impulse generated down the axon
- provides nutrients to the neuron, plays role in nerve development + regeneration

18) - can be myelinated or unmyelinated
- can reach lengths of 3-4 feet (1m or more)
- conduct impulses AWAY
- only 1/neuron