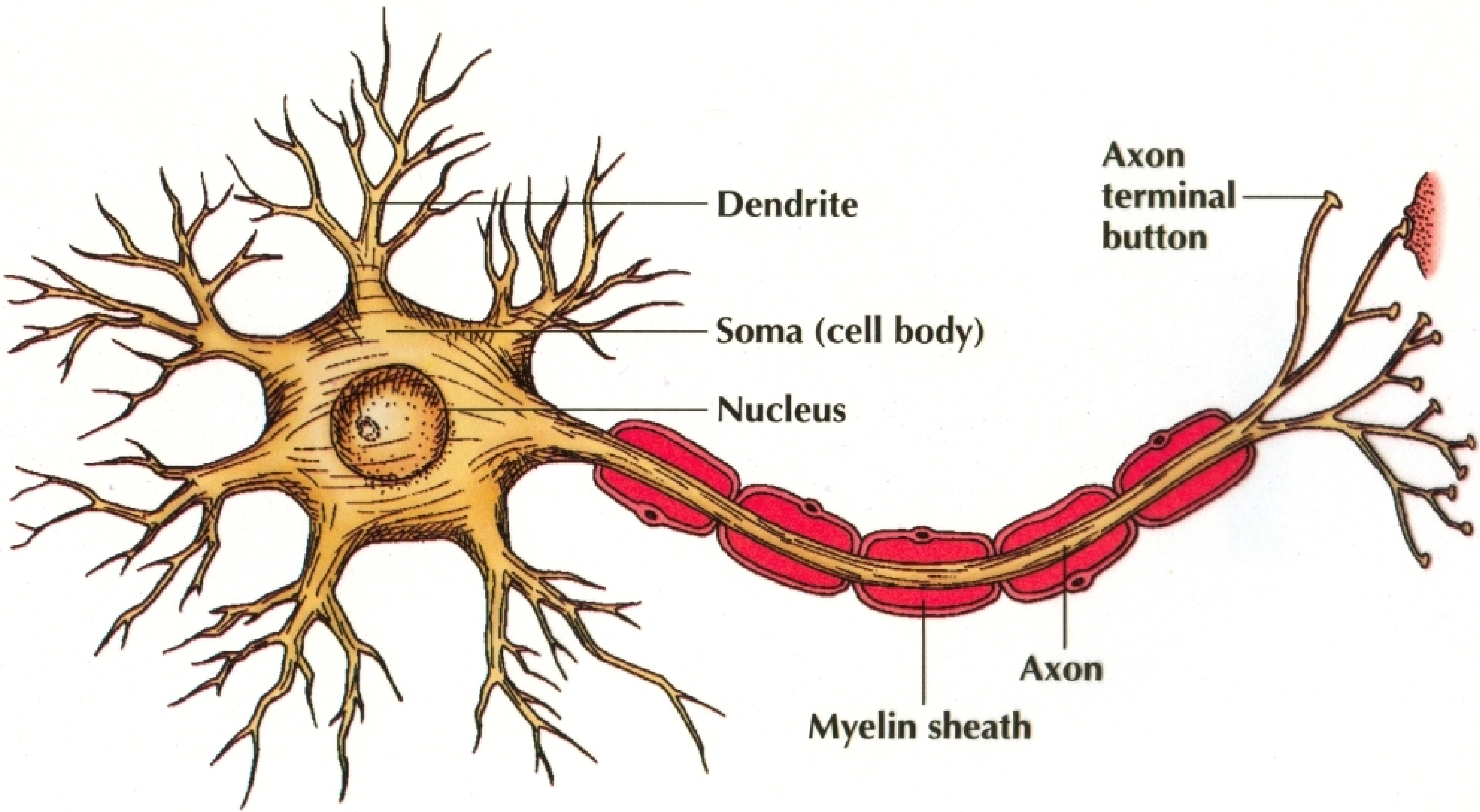
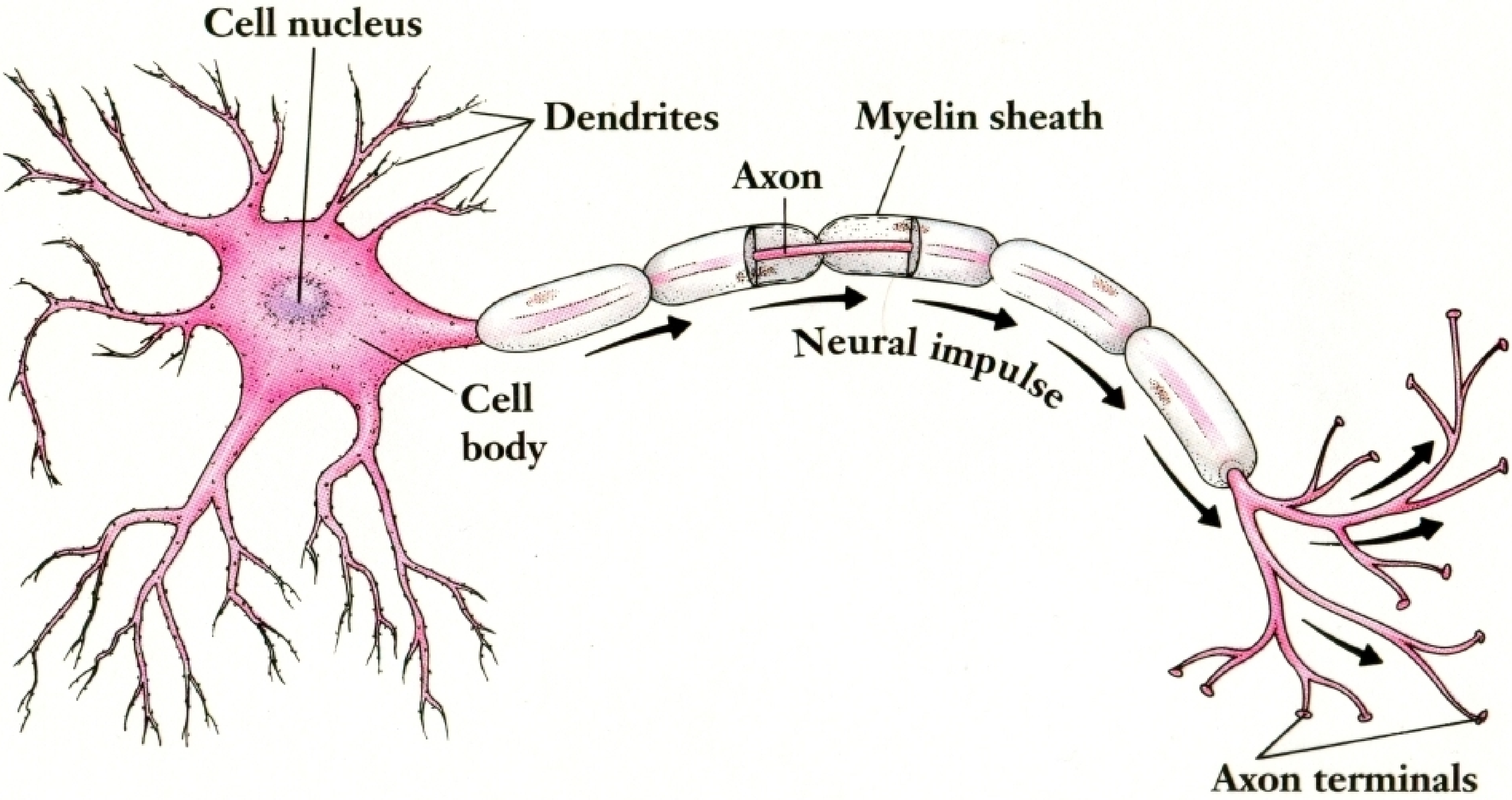
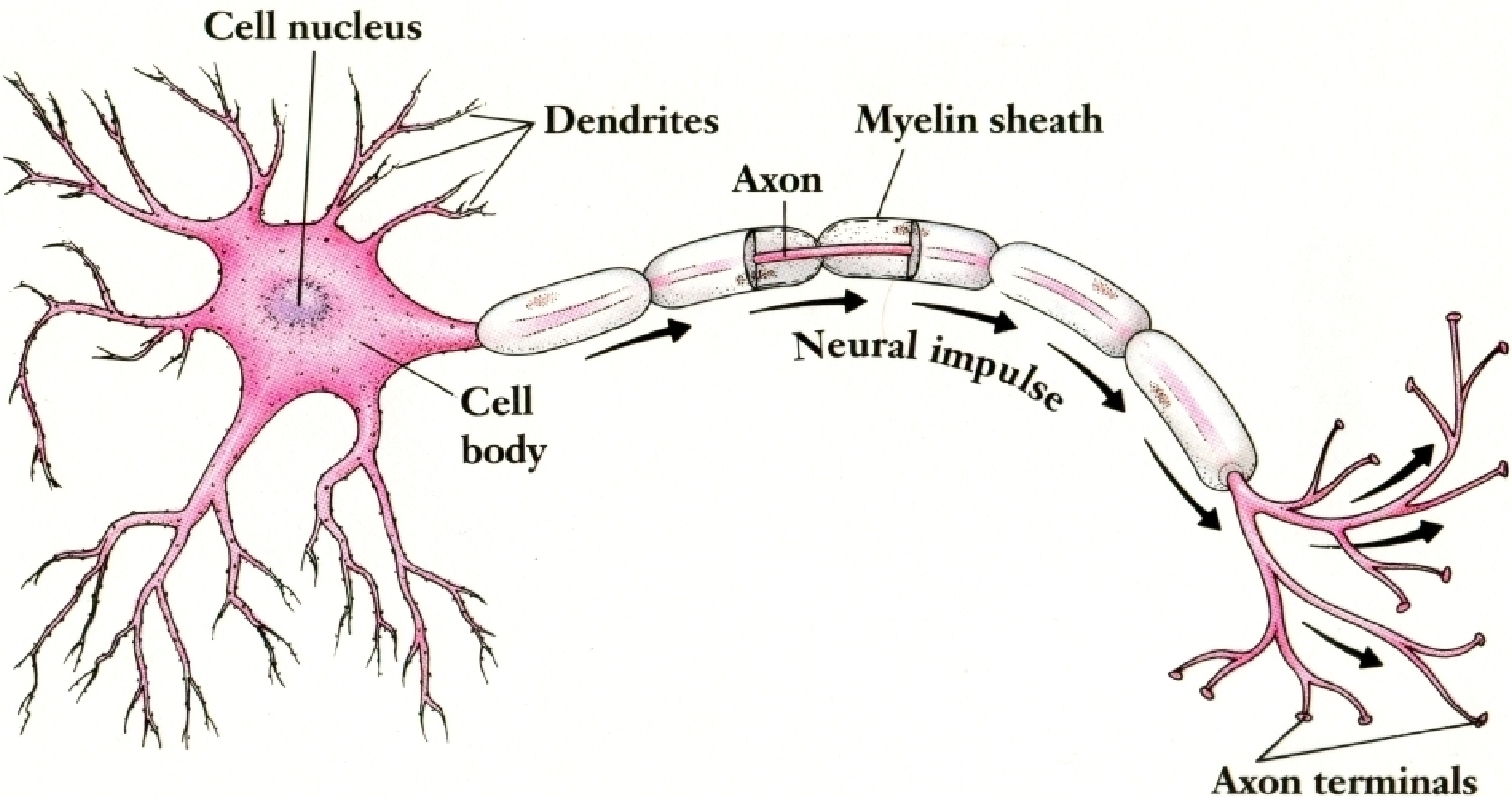
Typical Motor Neuron



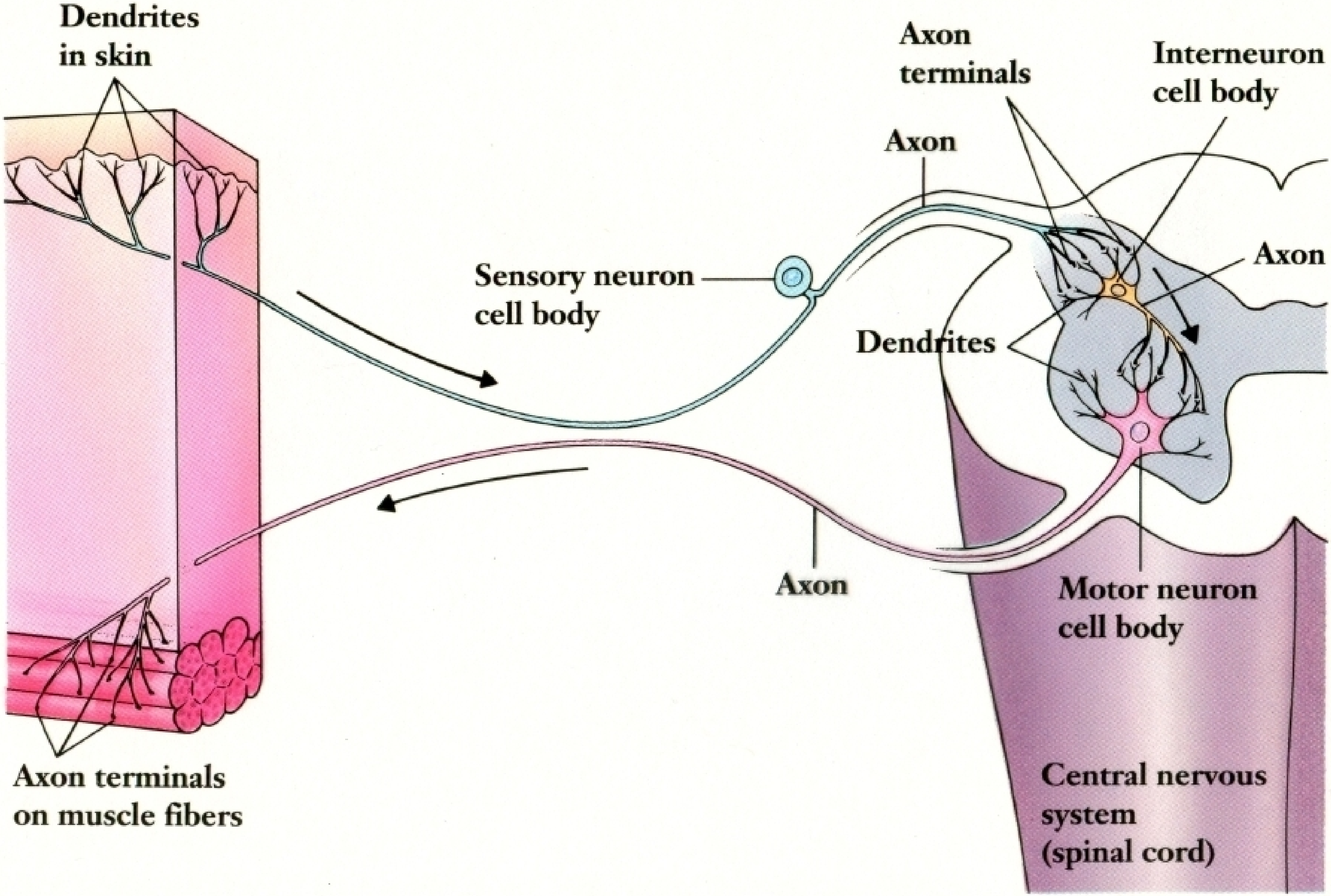
Typical Motor Neuron



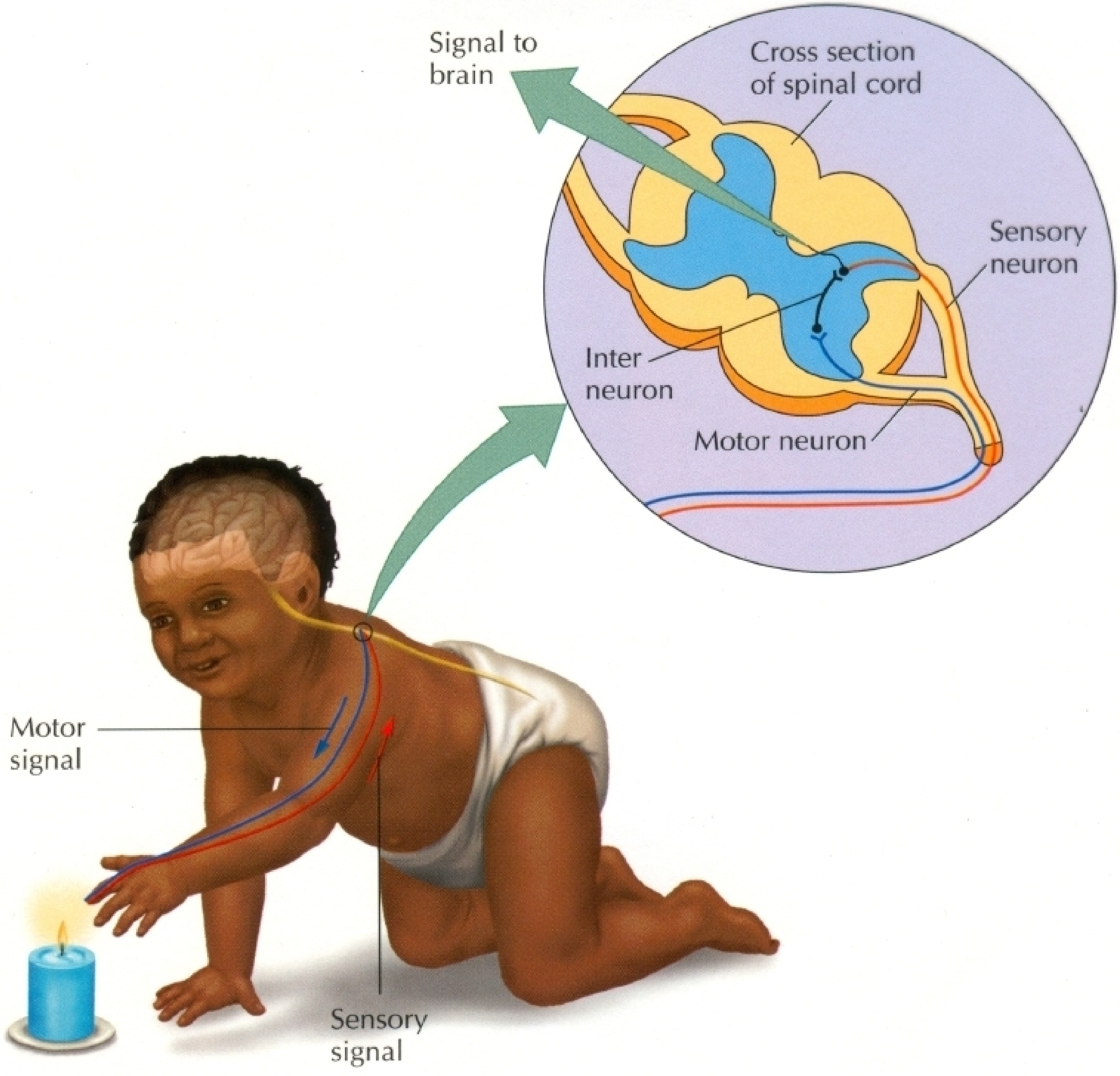
Ned the Neuron



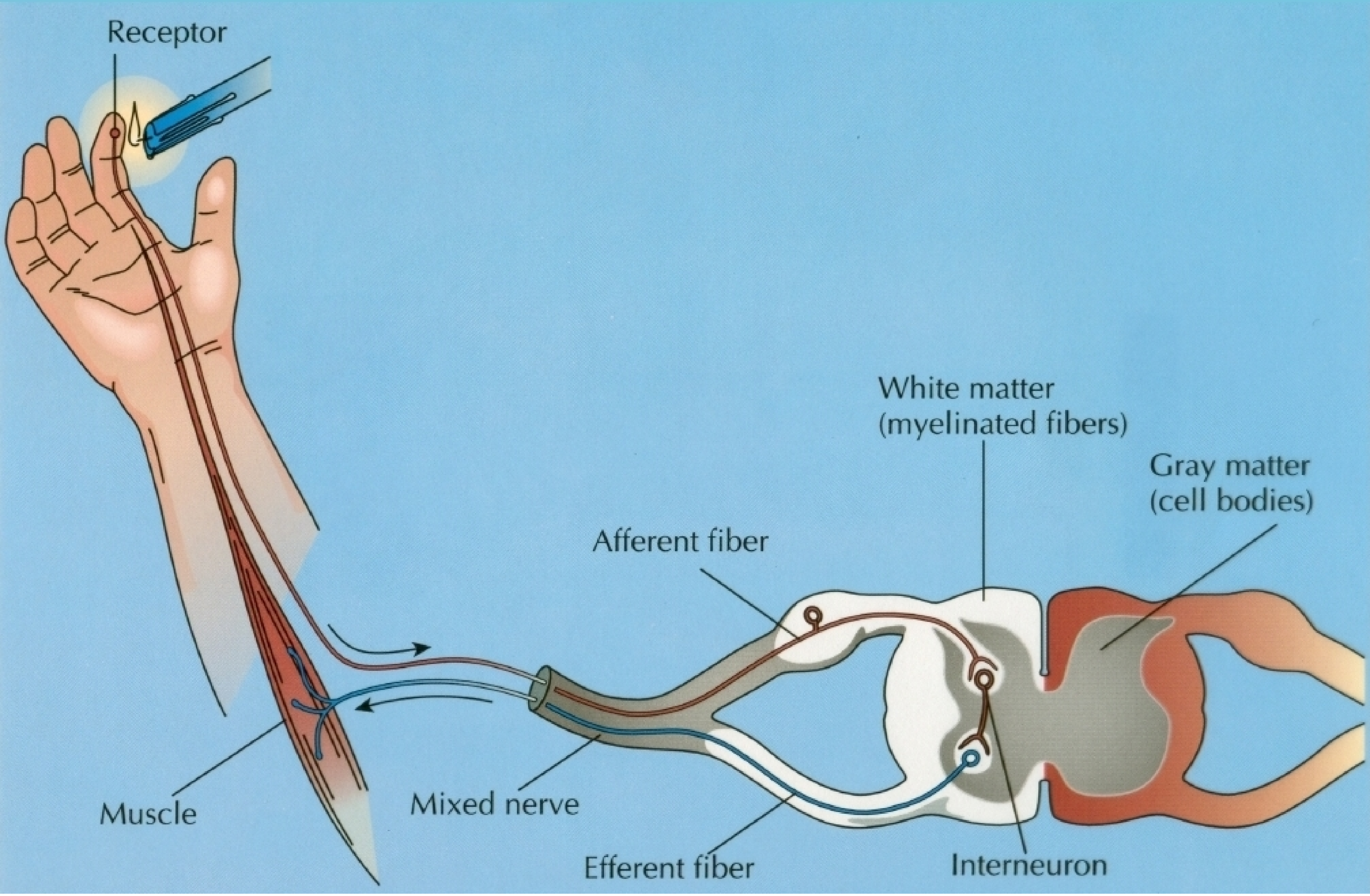
Types of Neurons



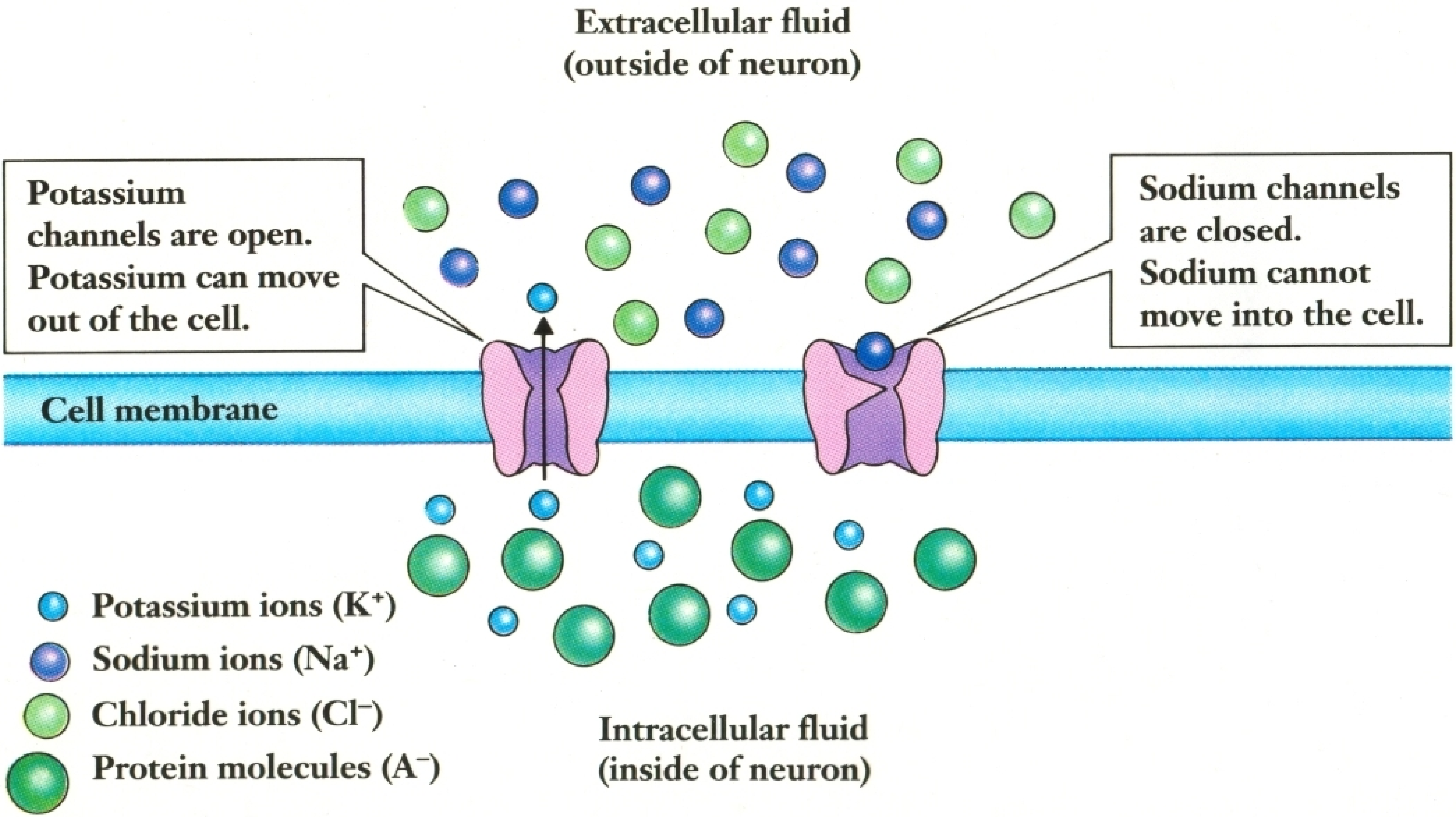
The Reflex Arc



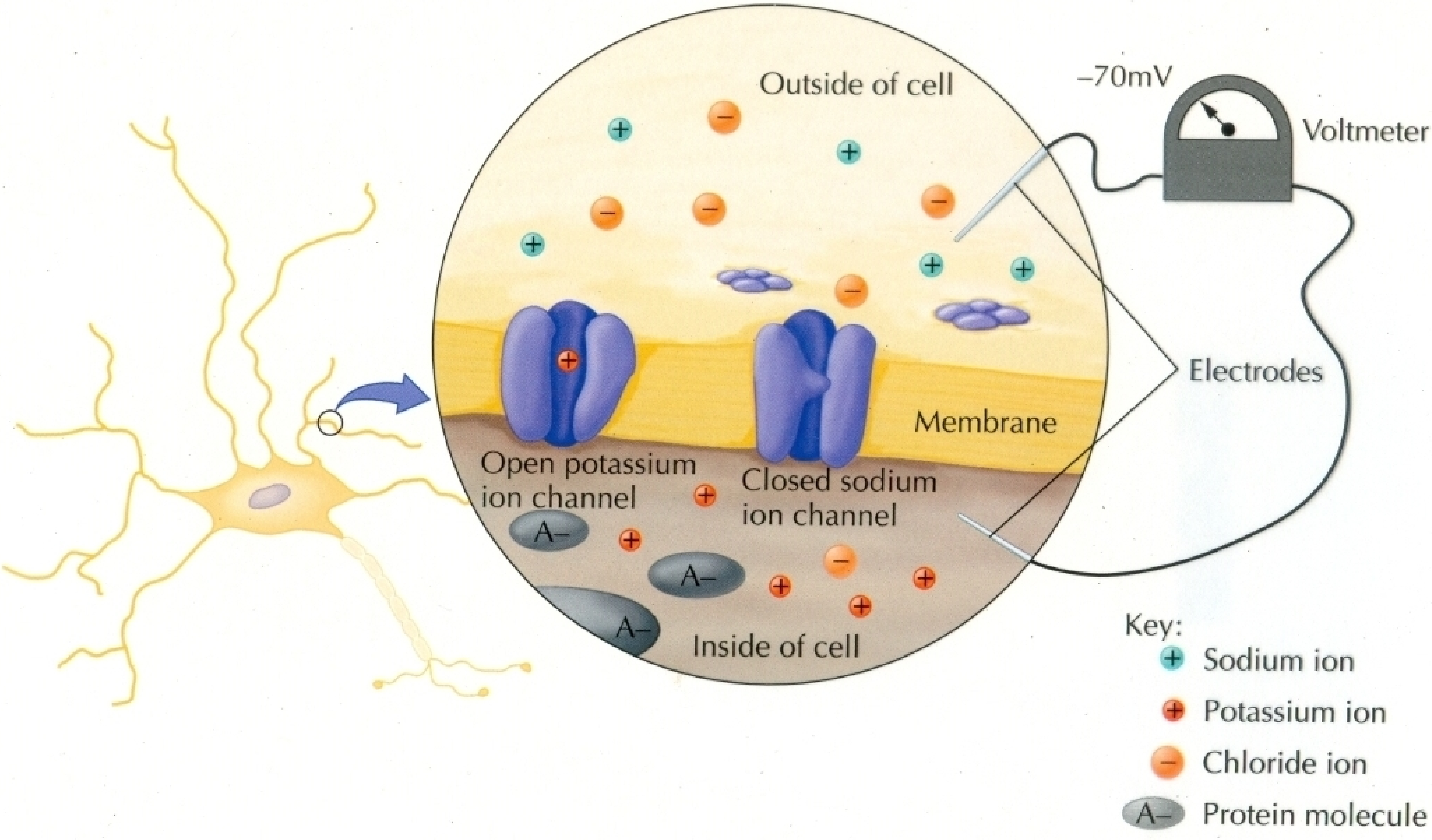
The Reflex Arc



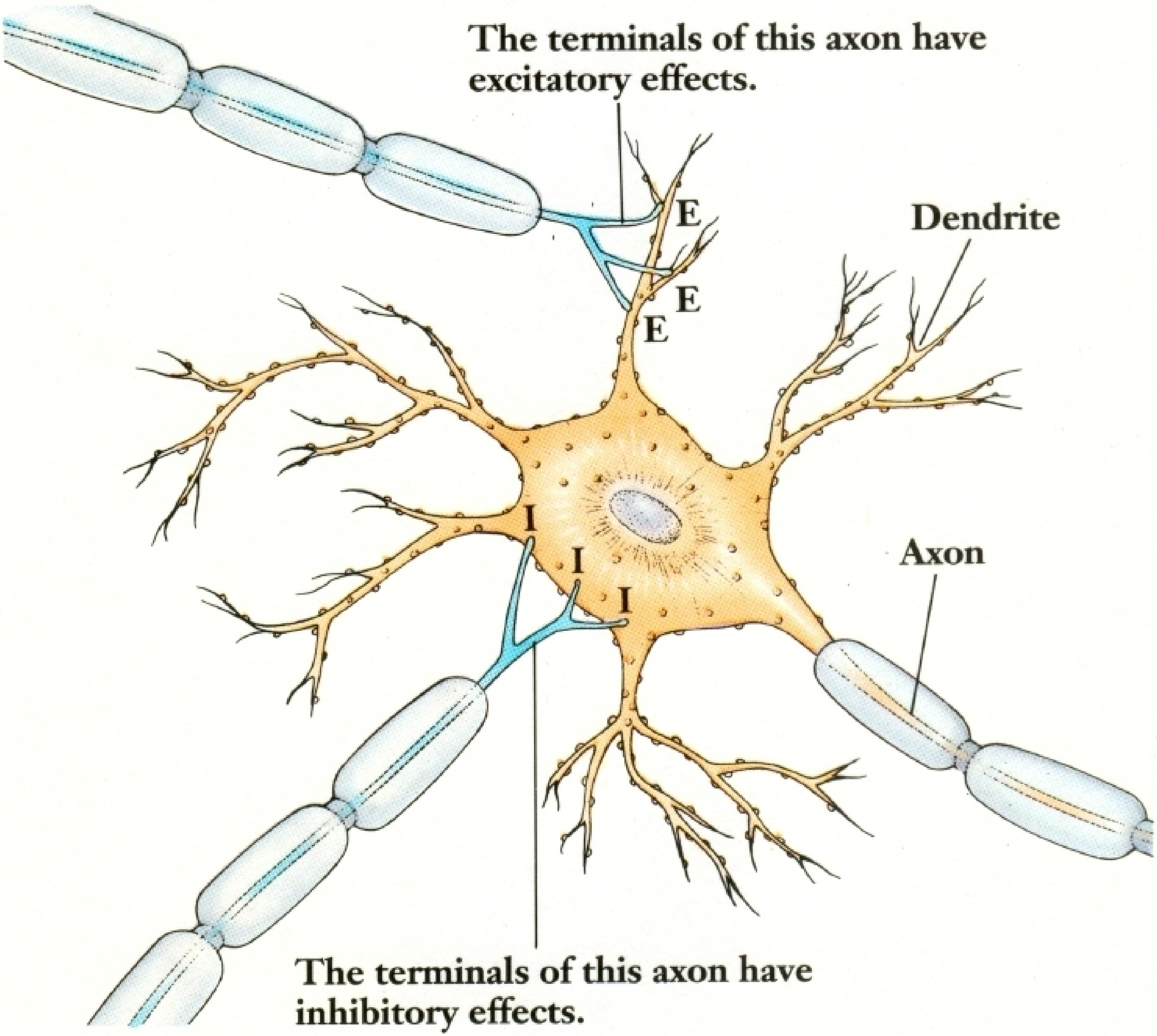
Resting Potential of a Neuron



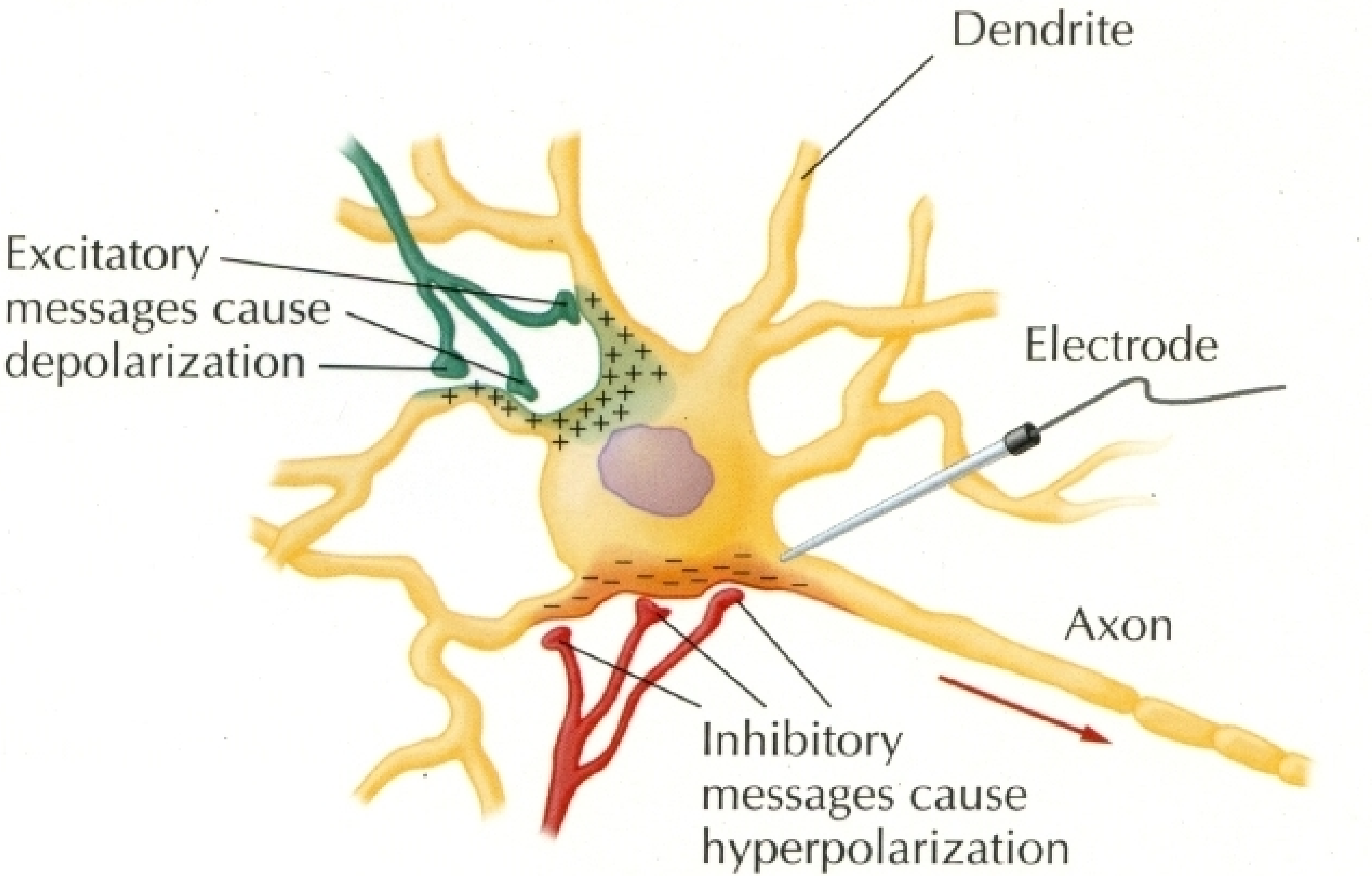
Resting Potential of a Neuron



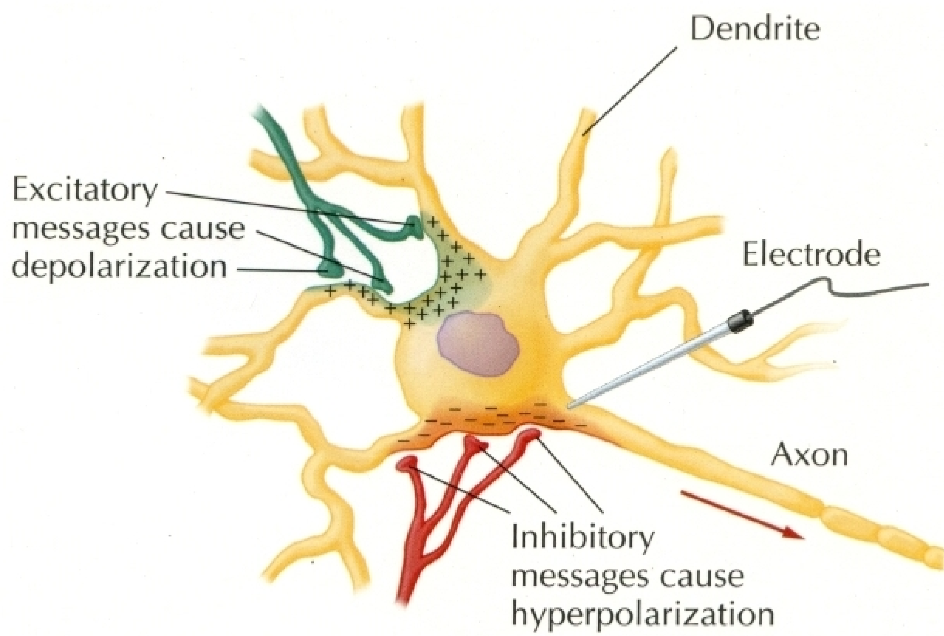
Excitatory and Inhibitory Inputs



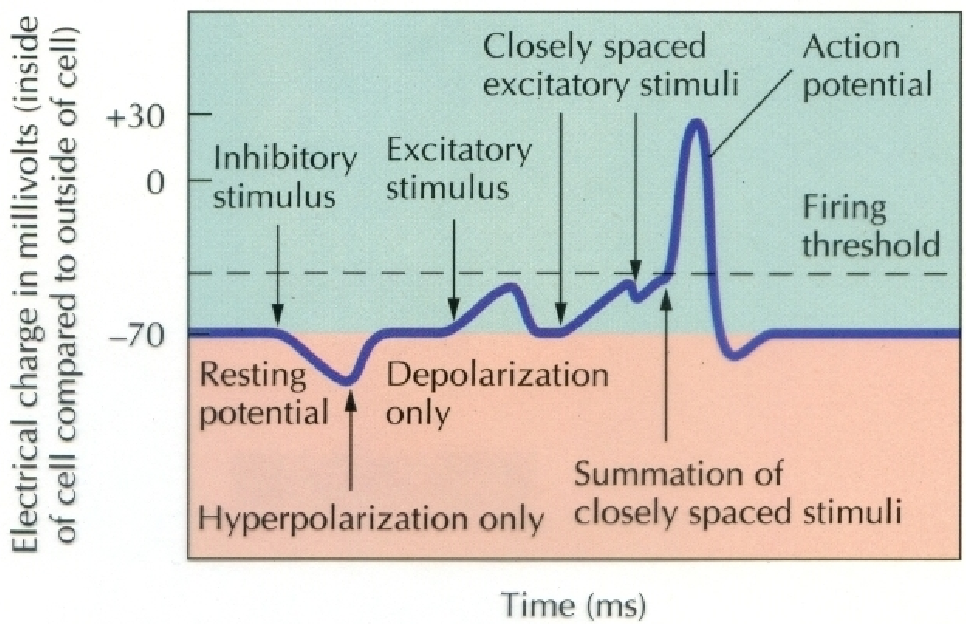
Excitatory and Inhibitory Inputs



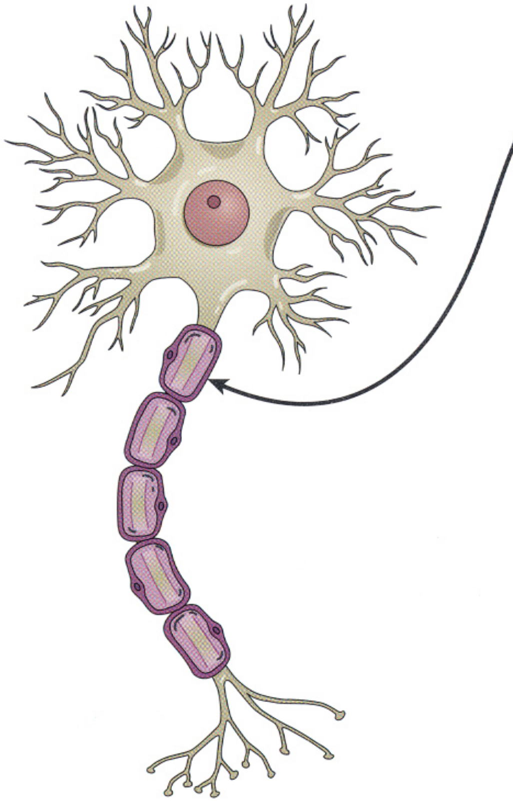
Excitatory and Inhibitory Inputs

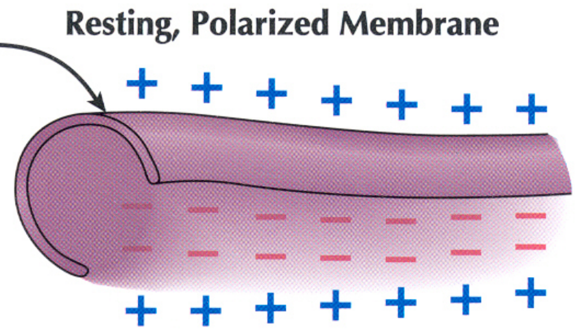


(a)

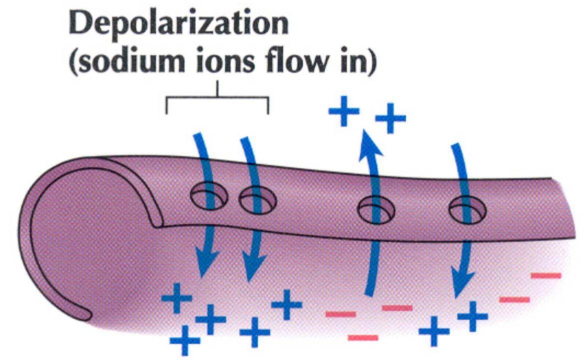


(b)

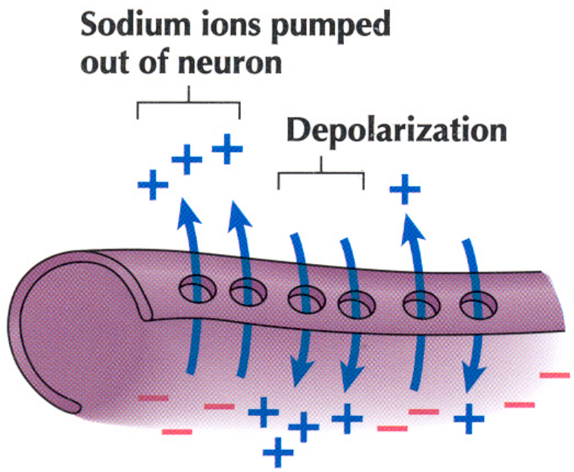




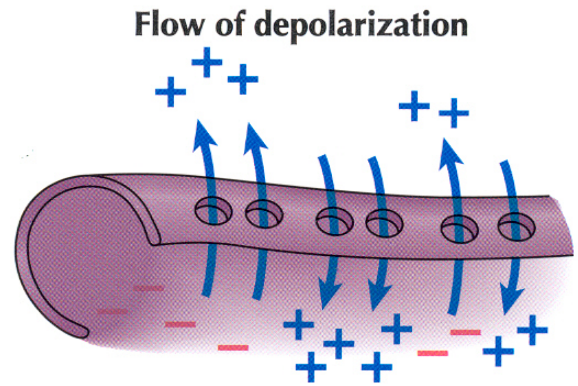
1. When an axon is in its *resting* (or *polarized*) state, there is a balance between the number of positively charged ions on the outside of the cell membrane and the negatively charged ions on the inside.



2. An *action potential* begins when a small section of the axon adjacent to the cell body is adequately stimulated by an incoming message. Pores (or channels) in the membrane at the stimulated area open and allow positively charged sodium ions to move inside the cell membrane. This movement causes a *depolarization* at that spot on the membrane.

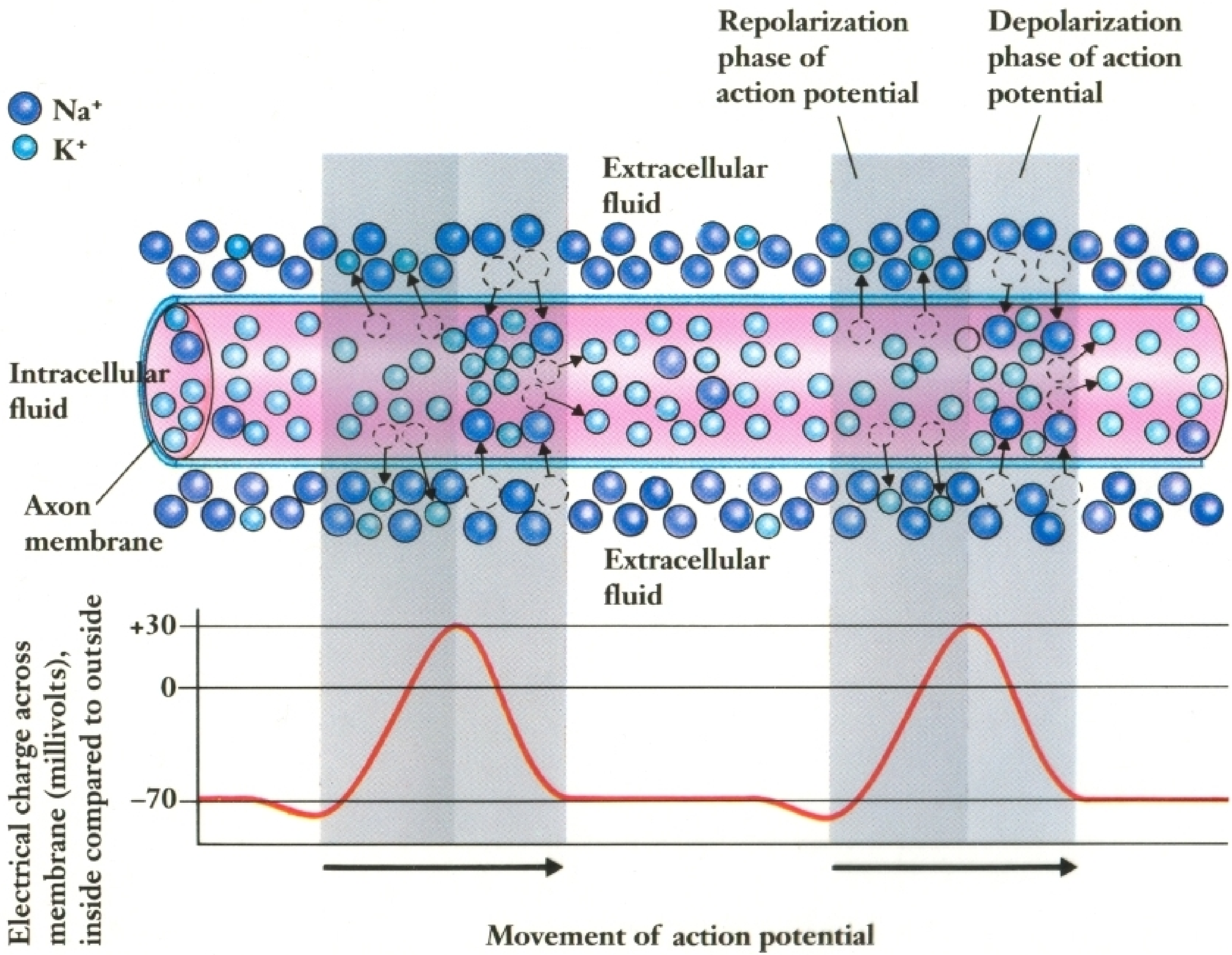


3. This depolarization produces an imbalance of ions in the adjacent section on the axon membrane. Pores in this neighboring area now open, and more positively charged sodium ions flow in. Meanwhile, the positively charged ions in the previous section sre being "pumped" out if the first section.



4. As the action potential continues down the axon, neighboring sections open and the process is repeated. Note that the first section has now completely recharged and is beginning the return to the resting state.

Propagation of the Action Potential



Ned the Neuron