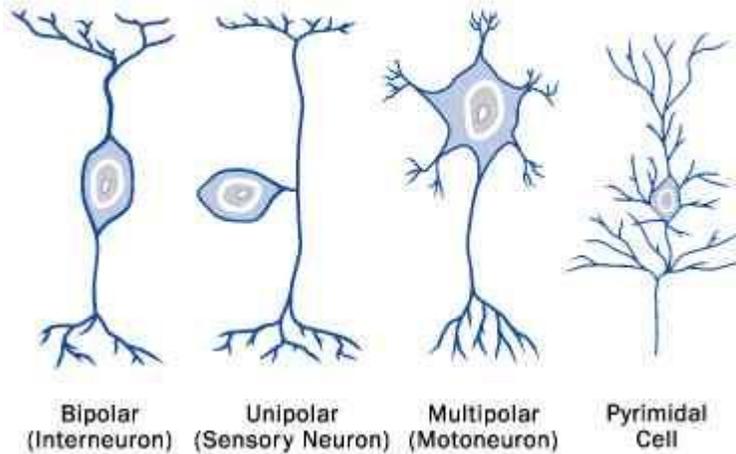


TYPES OF NEURON:

Basic Neuron Types



Afferent (sensory): Gets info from the world. Outside of CNS. Signals go up spinal cord

Efferent (motor): send neural impulses from CNS to body - muscles

Interneurons: neurons which talk to other neurons – memory etc.

Types of Glial cells:

Support cells

- **Astrocytes:** synchronize the activity of axons
 - Remove waste material in NS
- **Microglia:** cells that remove waste material from CNS
 - Suck up bacteria, virus'

Radial glia: provide pathways for neurons to migrate along during development

Myelinating glial cells: -involved in myelin production

- **Oligodendrocytes:** CNS – envelop more than 1 axons
- **Schwann cells:** PNS – envelop 1 axon

Anions: negatively charged

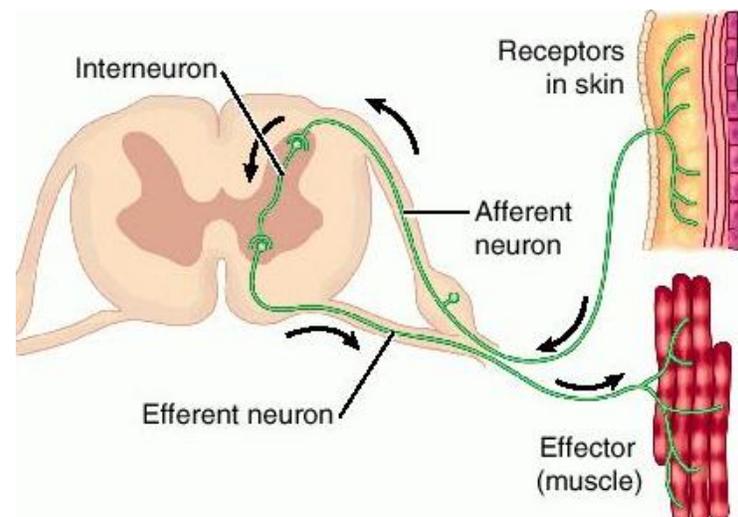
Cations: positively charged

Float in and out of the neuron

Bilipid plasma cell membrane: fat coated cell membrane

Sodium (Na⁺) on outside – wants to come in the cell but cant cos the sodium channels are closed

Posassium (k⁺) on inside of cells



Electrochemical gradient: where the charge dictates where the ions should go

- E.g. if one side is negative, the electrochemical gradient would 'pull' positive ions to the negative side, as positive ions are attracted to negative environment

Concentration gradient: the side of the membrane with higher concentration of a certain molecule/ion will lose them down the concentration gradient to the side with the lower concentration of these molecules

- The difference in distribution for various ions between the inside and outside of the membrane

A Na⁺/K⁺ pump pulls Na⁺ outside the axon membrane, and K⁺ into it. Free K⁺ channels allow K⁺ to go down its concentration gradient, to the outside of the axon membrane. The electrochemical gradient wants the K⁺ ions to go back into the axon, as the inside is becoming negatively charged with the loss of positive ions. SO K⁺ goes back in.

Action potential:

Voltage: Difference in charge between two points

Membrane potential:

- Rest: -70mV
- Threshold = -55
- Action potential = 40
- Threshold for depolarization of membrane necessary to trigger the action potential is -55mV
- Action potentials are all or nothing –either get firing of neuron or don't
- If stimulation is sufficient to meet threshold – will get action potential

AP stage 1:

- Stimulation at dendrites

