



Nervous system

neurology : is the branch of medical science that deal with the normal functioning disorders of the nervous system

nervous system : is the body's control center and communications network . In humans , the nervous system serves three broad functions :

1- **Sensory functions** : it senses changes within the body and in the outside environment.

2- **Integrative functions** : it interprets the changes .

3- **Motor function** : it respond to the interpretation by initiating action in the form of muscular contraction or glandular secretion

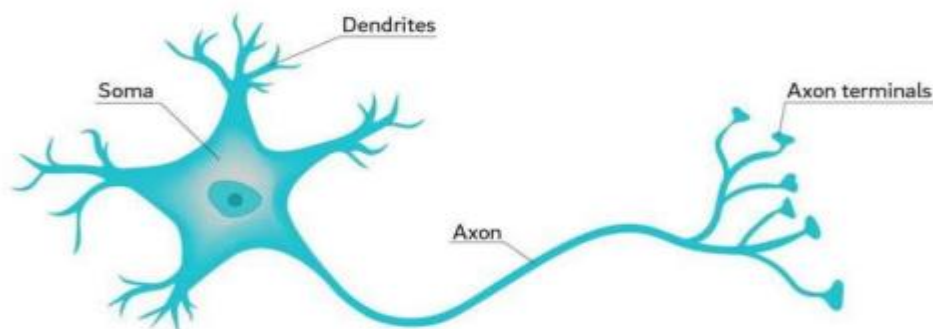
Cells of nervous system :

Nervous tissues consists of two types of cells :

1- The neurons which conduct impulses & make up the impulse conducting protein of the brain , spinal cord , & nerves .

2- The neurological cells which perform other functions

Neuron



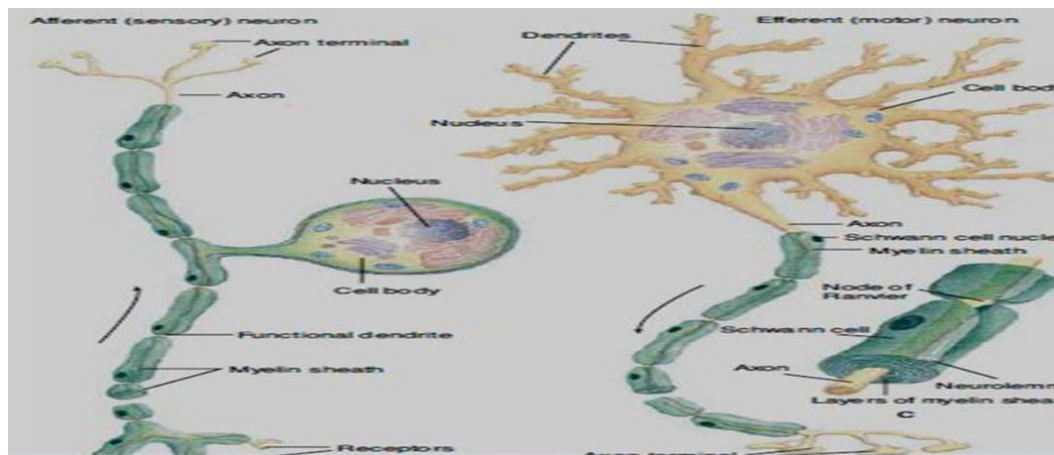


Neurons :- consists of a cell body (soma) , an axon , & usually several dendrites . .

- 1- **The cell body (soma)** : contains most of the cytoplasm and many of the organelles usually found in cells (mitochondria , Golgi apparatus , nucleus , & Nucleolus)
- 2- **The axon** : of neuron is a long , thin process extending from the hillock . In most neurons it extends in only one direction from the cell body .
- 3- **Dendrites** : are shorter processes than axons in most neurons . they connect directly with the cell body .

Schwan cells : (sometimes considered a kind of neuroglial cells) . are found wrapped around the axons of myelinated neurons of the PNS . Many schwan cells are required to produce a myelin sheath on a single axon . The myelin sheath has numerous small constrictions called **node of Ranveir** .

These nodes represented minute spaces between adjacent schwan cells



structure of a typical neuron



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Neurons divided in to three types according to the number of processes:

- 1- Multipolar neurons** : consists of many dendrites and one axon e.g.// pyramidal cells in the motor cerebral cortex
- 2- Bipolar neurons** : consists of one dendrite & one axon e.g.// sensory neurons in the retina of the eye .
- 3- Unipolar neurons** : consists of one process branched in to two branches of opposite directions e.g.// cells of sensory