

NERVOUS TISSUE

Nervous tissue, also known as neural tissue, is the primary tissue in the nervous system, which controls and regulates bodily functions and activities. It's made up of neurons and glial cells, and is found in the brain, spinal cord, and nerves:

- **Neurons**

These cells generate and conduct electrical impulses that allow the nervous system to communicate. Neurons have three main parts: the cell body, dendrites, and an axon. Dendrites receive impulses from other neurons, while the axon carries impulses away from the cell body.

- **Glial cells**

Also known as neuroglial cells, these cells support the activities of neurons. They bind neurons together, insulate them, and provide nutrients. Some glial cells also protect against bacteria.

Function:

- Neurons generate and carry out nerve impulses. They produce electrical signals that are transmitted across distances, they do so by secreting chemical neurotransmitters.
- Responds to stimuli
- Carries out communication and integration
- Provides electrical insulations to nerve cells and removes debris
- Carries messages from other neurons to the cell body

Structure:

The structure of a neuron has three main parts:

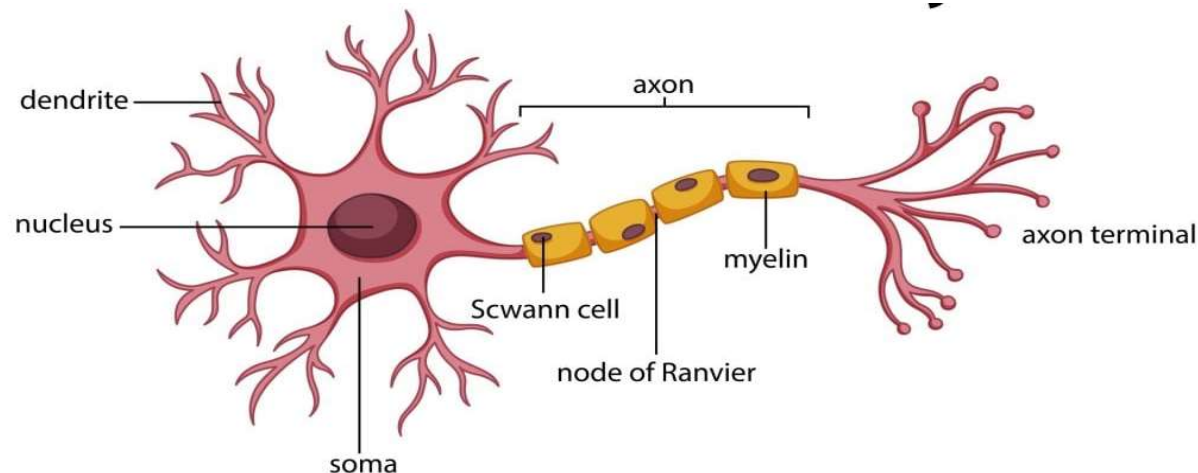
Dendrites: Finger-like projections that receives electrical impulses or sensory input from other cell.

Cell body or Soma: It contains nucleus and other cell organelles.

neurons also have many rough endoplasmic reticula, called **Nissl bodies**.

Axon: Long, thin nerve fibre that transmit electrical impulses between neurons.

- The cone-shaped part where axon and cell body connects, is called **axon hillock**.
- Often axons are wrapped by **myelin sheaths**, a fatty layer that surrounds nerve cells. It allows electrical impulse to travel quickly.
- **Schwann cells** wraps their plasma membrane to form the myelin sheath. The outer covering of Schwann cell is called **neurilemma**.
- There are some exposed portions between myelin, called **Node of Ranvier**. It helps in rapid propagation of action potential.
- The end portion of axon releases neurotransmitter to transfer signal from one neuron to other. This is known as **axon terminal**.
- The point of contact between axon terminal and another neuron is called **synapse**.



Neurotransmitter:

Electrical impulse:

Axolemma: