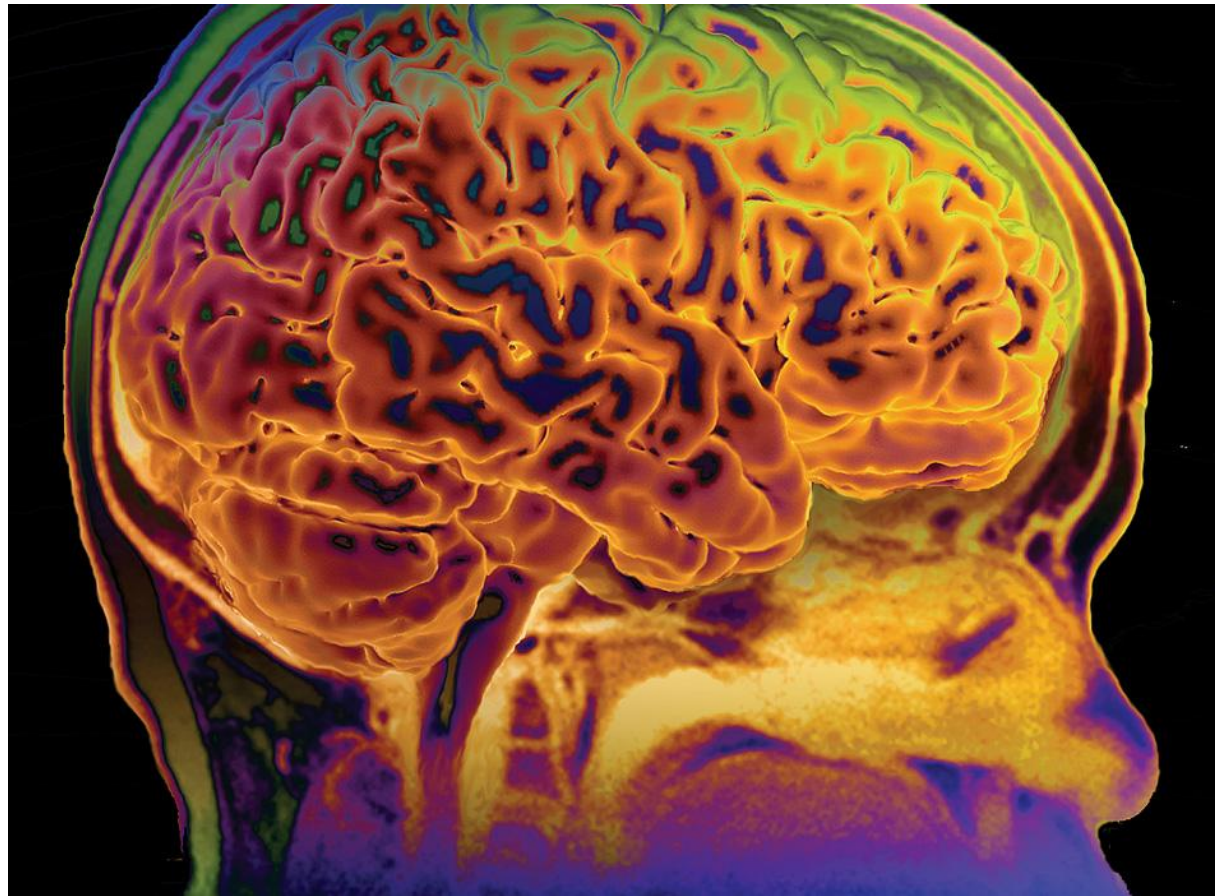


29.2 Neurons

KEY CONCEPT

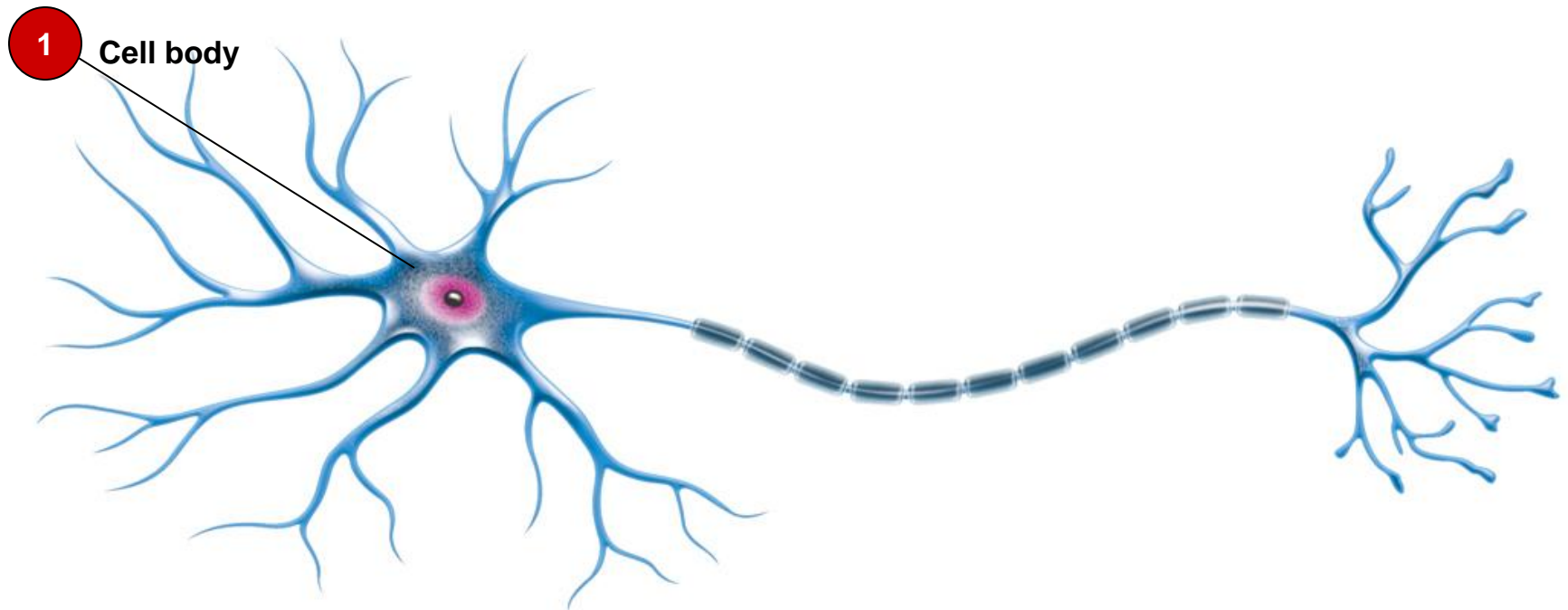
The nervous system is composed of highly specialized cells.



29.2 Neurons

▶ Neurons are highly specialized cells.

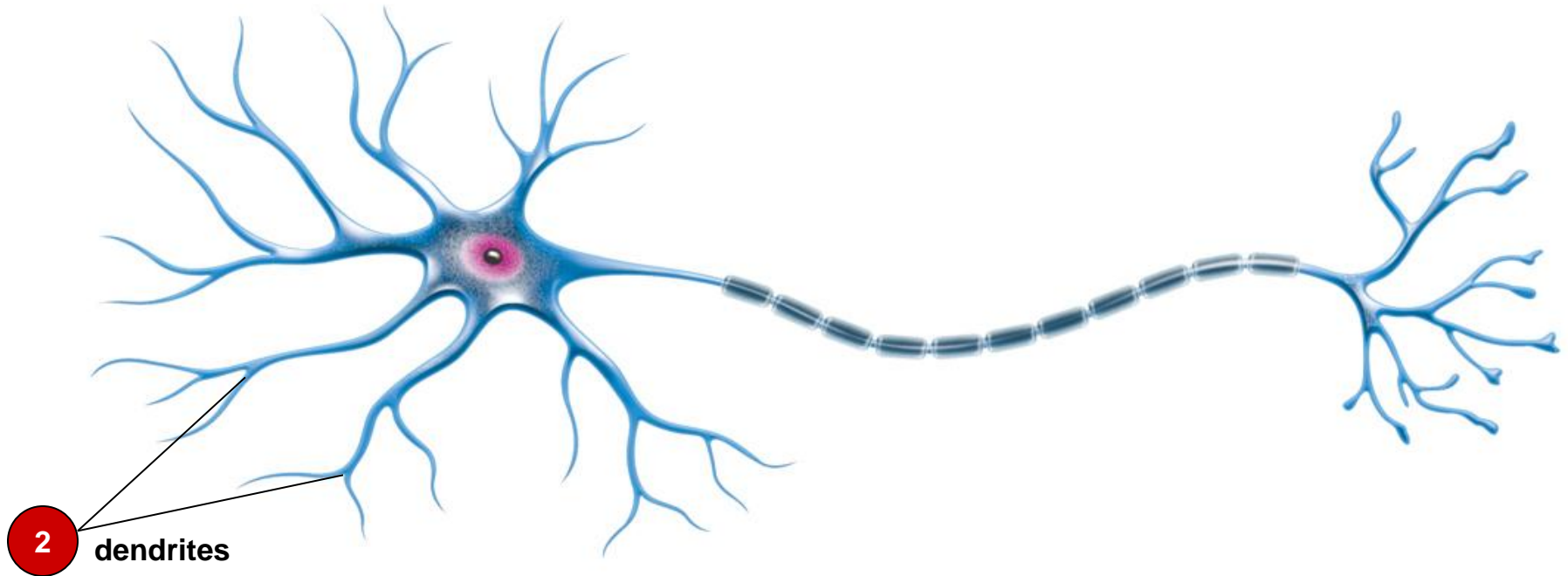
- A neuron has three parts.
 - cell body has nucleus and organelles



29.2 Neurons

▶ Neurons are highly specialized cells.

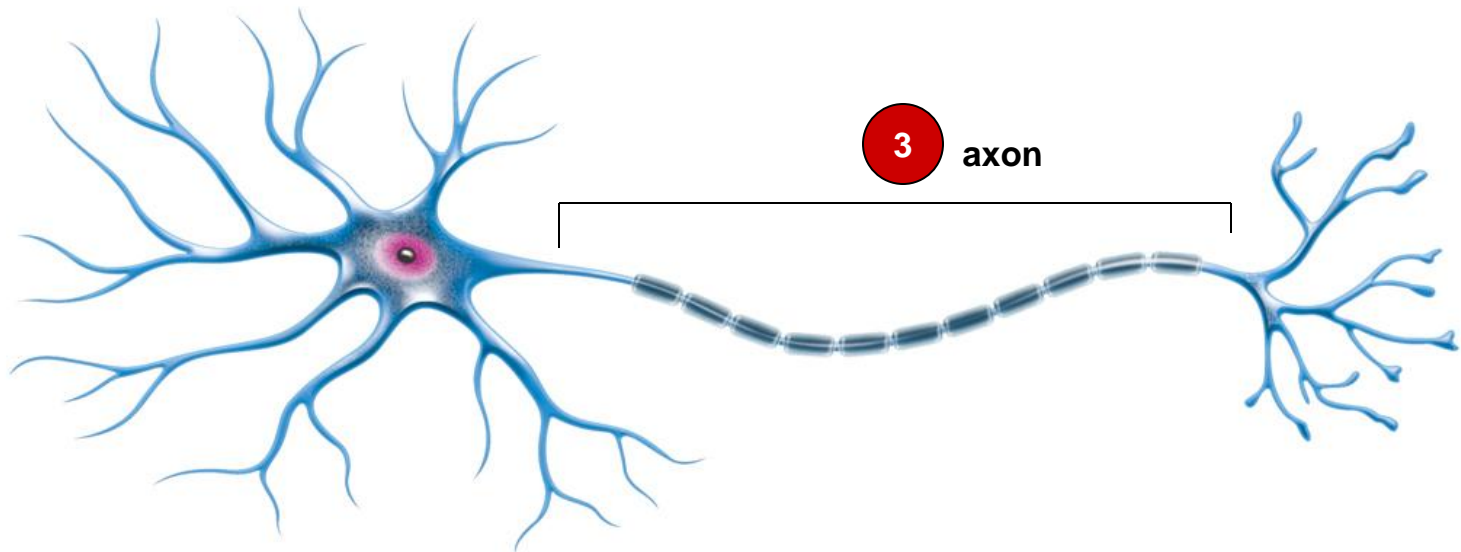
- A neuron has three parts.
 - cell body has nucleus and organelles
 - dendrites receive impulses



29.2 Neurons

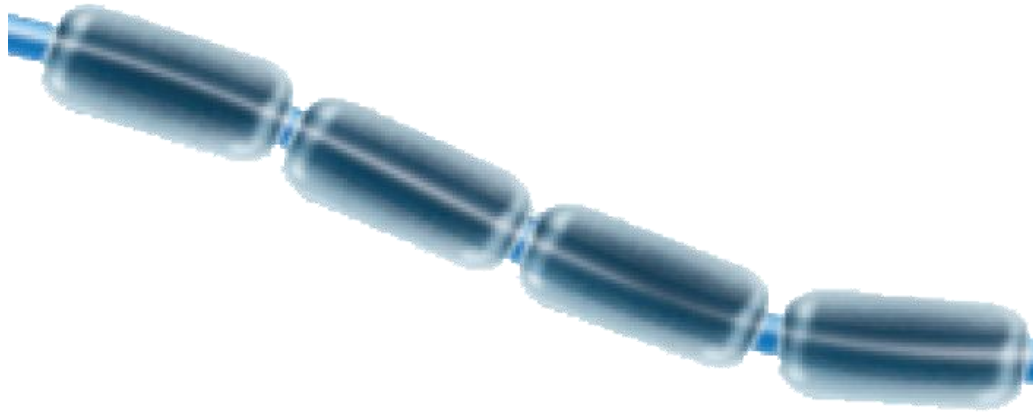
▶ Neurons are highly specialized cells.

- A neuron has three parts.
 - cell body has nucleus and organelles
 - dendrites receive impulses
 - axon carries impulses



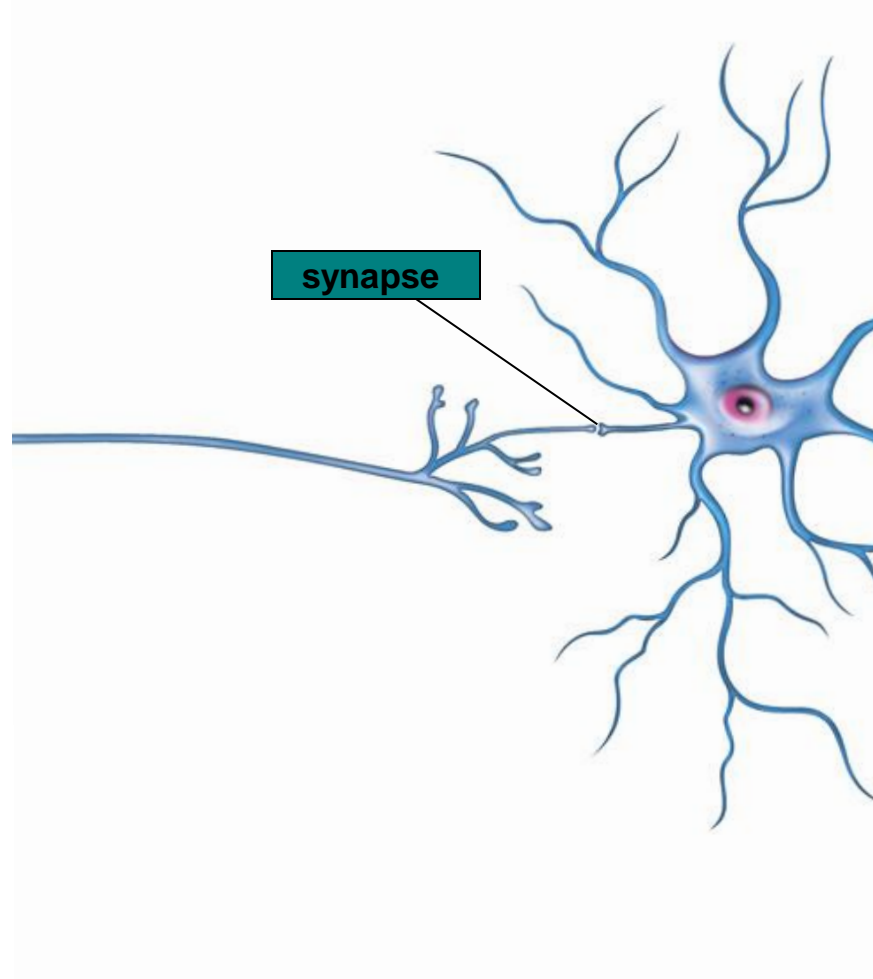
29.2 Neurons

- Neurons have other structures to transmit signals.
 - Schwann cell



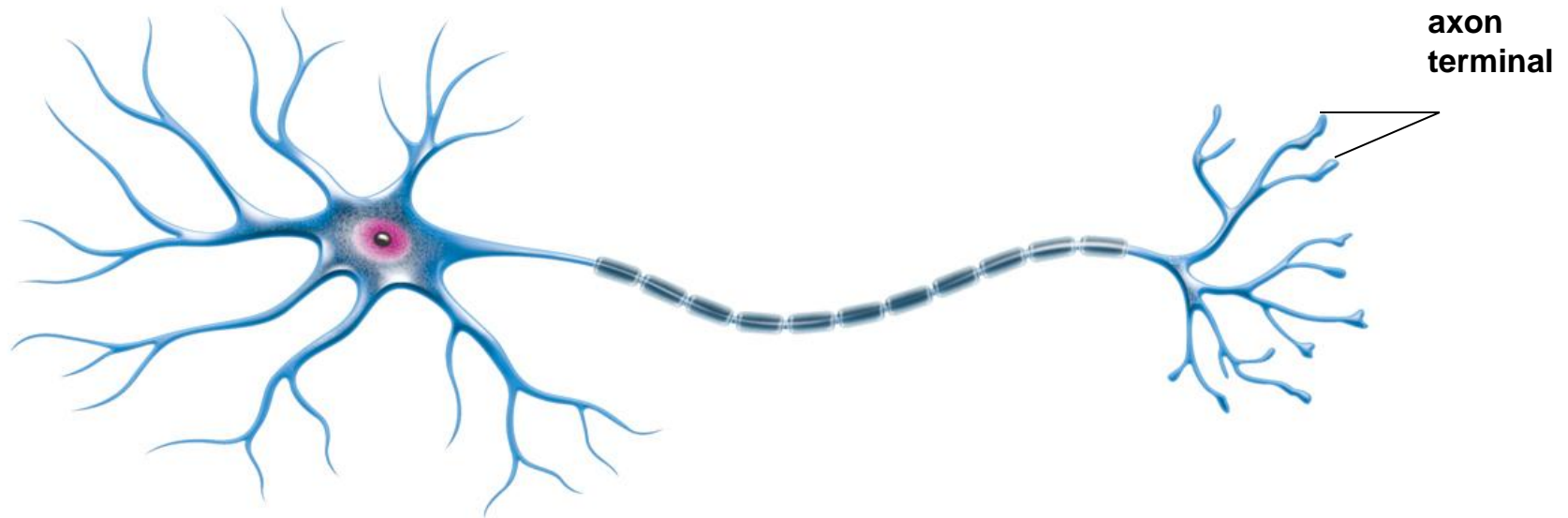
29.2 Neurons

- Neurons have other structures to transmit signals.
 - Schwann cell
 - synapse



29.2 Neurons

- Neurons have other structures to transmit signals.
 - Schwann cell
 - synapse
 - terminal



29.2 Neurons

▶ Neurons receive and transmit signals.

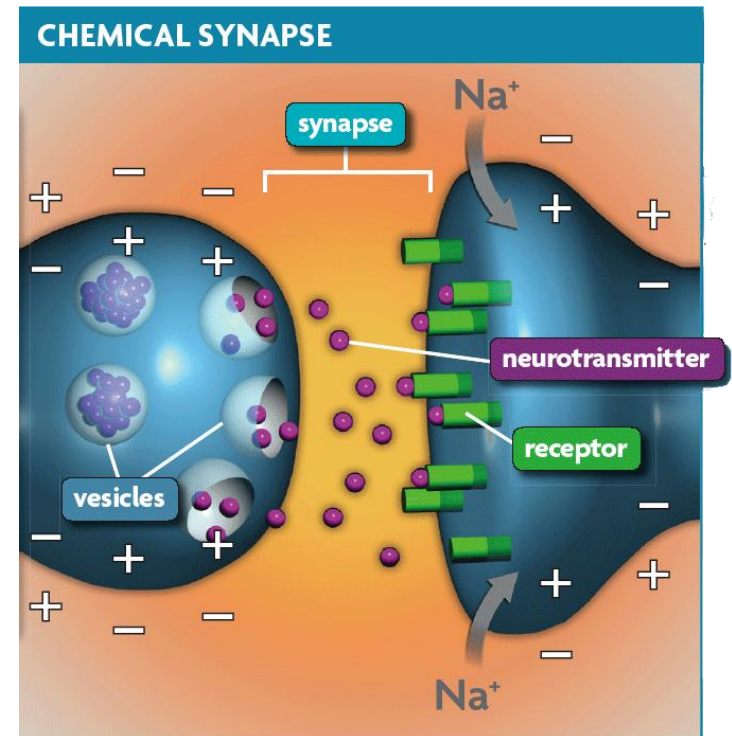
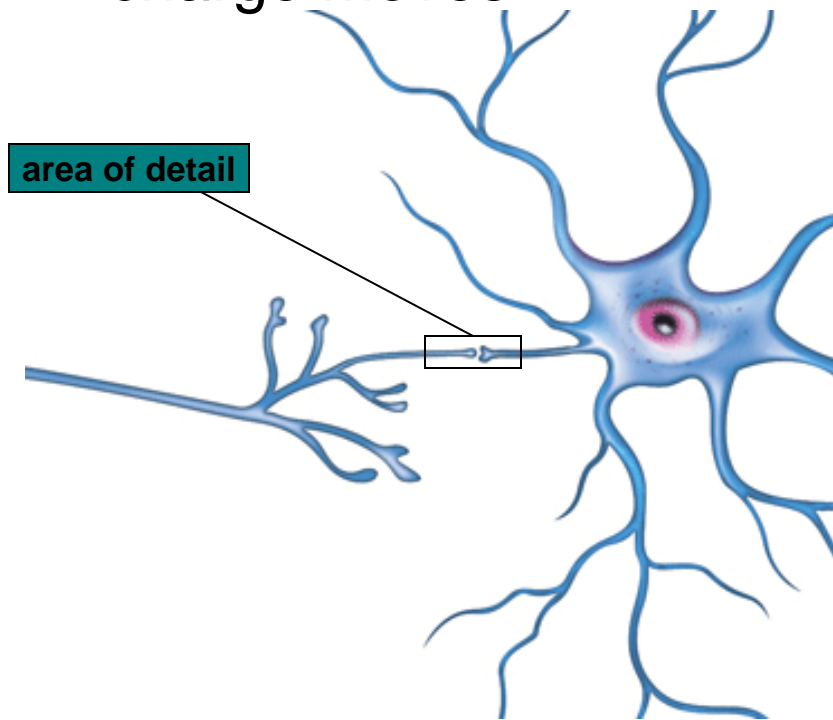
- Resting potential means no signal is being transmitted.
 - more Na^+ outside of cell
 - more K^+ inside of cell

29.2 Neurons

- An action potential is a moving electrical impulse.
 - It is generated by a stimulus.
 - Na^+ enters, and cell becomes positively charged.
 - K^+ leaves, and area of positive charge moves.

ACTION POTENTIAL

- Na^+ channels in the second neuron open quickly. Na^+ rushes into the cell.
- A new impulse is generated.



29.2 Neurons

- A chemical signal passes between neurons.
 - Impulse reaches terminal.



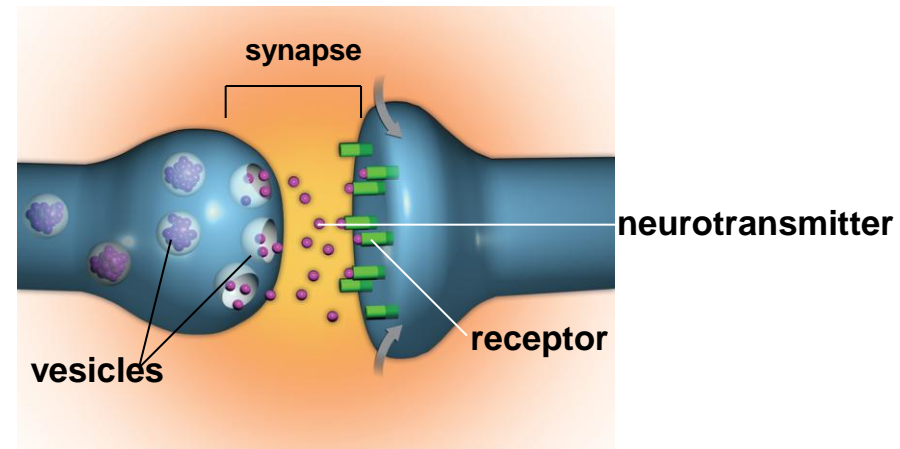
29.2 Neurons

- A chemical signal passes between neurons.
 - Impulse reaches terminal.



29.2 Neurons

- A chemical signal passes between neurons.
 - Impulse reaches terminal.
 - Neurotransmitters released into synapse.



29.2 Neurons

- A chemical signal passes between neurons.
 - Impulse reaches terminal.
 - Neurotransmitters released into synapse.
 - Neurotransmitters stimulate next cell.

