

The Neuron

Psychology

The parts of a neuron, and how a signal travels along one.

One signal, from dendrite to synapse.

1

Dendrites receive

Input from other neurons, summed at the cell body.

2

Threshold reached

Around -55 mV. Below it, nothing happens at all.

3

Action potential fires

All-or-nothing. Sodium in, then potassium out.

4

Travels down the axon

Saltatory conduction jumps between nodes in myelinated axons.

5

Neurotransmitter released

Into the synaptic cleft, binding to the next neuron's receptors.

KEY NUMBERS

Resting potential: -70 mV

Threshold: about -55 mV

Refractory period: ~ 1 ms

Speed: 1–120 m/s depending on myelination

The action potential is all-or-nothing. Intensity is coded by firing rate, not by signal size.