Schematic drawing of a synapse between two neurons



Synaptic vesicles contain a neurotransmitter (NT) and release it when their membranes fuse with the outer cell membrane. Neurotransmitter molecules cross the synaptic cleft and bind to receptors known as ligand-gated ion channels (LGICs) and G-protein–coupled receptors (GPCRs) on the postsynaptic neuron. GPCRs on the presynaptic neuron's axon terminal alter the function of voltage-gated ion channels and modulate neurotransmitter release. Neurotransmitter transporters remove neurotransmitter molecules from the synaptic cleft so that they can be repackaged into vesicles.

Prepared: December 2008