

Neurotransmitters Encyclopedia Article

Neurotransmitters

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Contents

Neurotransmitters Encyclopedia Article.....	1
Contents.....	2
Neurotransmitters.....	3



Neurotransmitters

A neurotransmitter is any chemical substance (the first recognized was ACETYLCHOLINE) that NEURONS (nerve cells) secrete to communicate with their target cells (glands, muscles, and other neurons). Neurotransmitters diffuse from their sites of release—from the presynaptic nerve terminal—across the synaptic cleft, to bind to receptors on the external surface of the postsynaptic cell. Activation of these receptors allows for the transmission of commands (excitation, inhibition, and other more complex forms of regulation) from the presynaptic neuron to the postsynaptic cell.

A neurotransmitter is released from a nerve ending, interacts with specific RECEPTORS, and is then either transported back into the presynaptic neuron or destroyed by metabolic enzymes in the synaptic cleft.

Chemically, neurotransmitters are amino acids, amines, or peptides. Peptide transmitters commonly coexist and may be cosecreted with amino acid or amine transmitters.

See Also

Dopamine; Endorphins; Neurotransmission; Norepinephrine; Serotonin)

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