Glutamate receptor

Glutamate receptors are synaptic and non synaptic receptors located primarily on the membranes of neuronal and glial cells.

Glutamate (the conjugate base of glutamic acid) is abundant in the human body, but particularly in the nervous system and especially prominent in the human brain where it is the body's most prominent neurotransmitter, the brain's main excitatory neurotransmitter, and also the precursor for GABA, the brain's main inhibitory neurotransmitter.[2] Glutamate receptors are responsible for the glutamate-mediated postsynaptic excitation of neural cells, and are important for neural communication, memory formation, learning, and regulation.

The N-methyl-D-aspartate receptor (also known as the NMDA receptor or NMDAR), is a glutamate receptor and ion channel protein found in nerve cells. The NMDA receptor is one of three types of ionotropic glutamate receptors. The other receptors are the AMPA and kainate receptors. It is activated when glutamate and glycine (or D-serine) bind to it, and when activated it allows positively charged ions to flow through the cell membrane.

The NMDA receptor is very important for controlling synaptic plasticity and memory function.