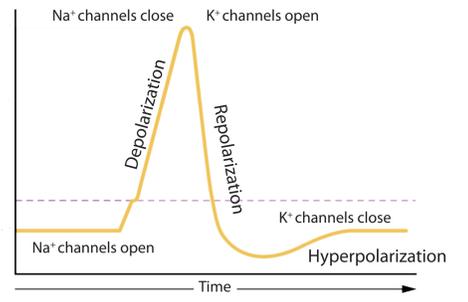




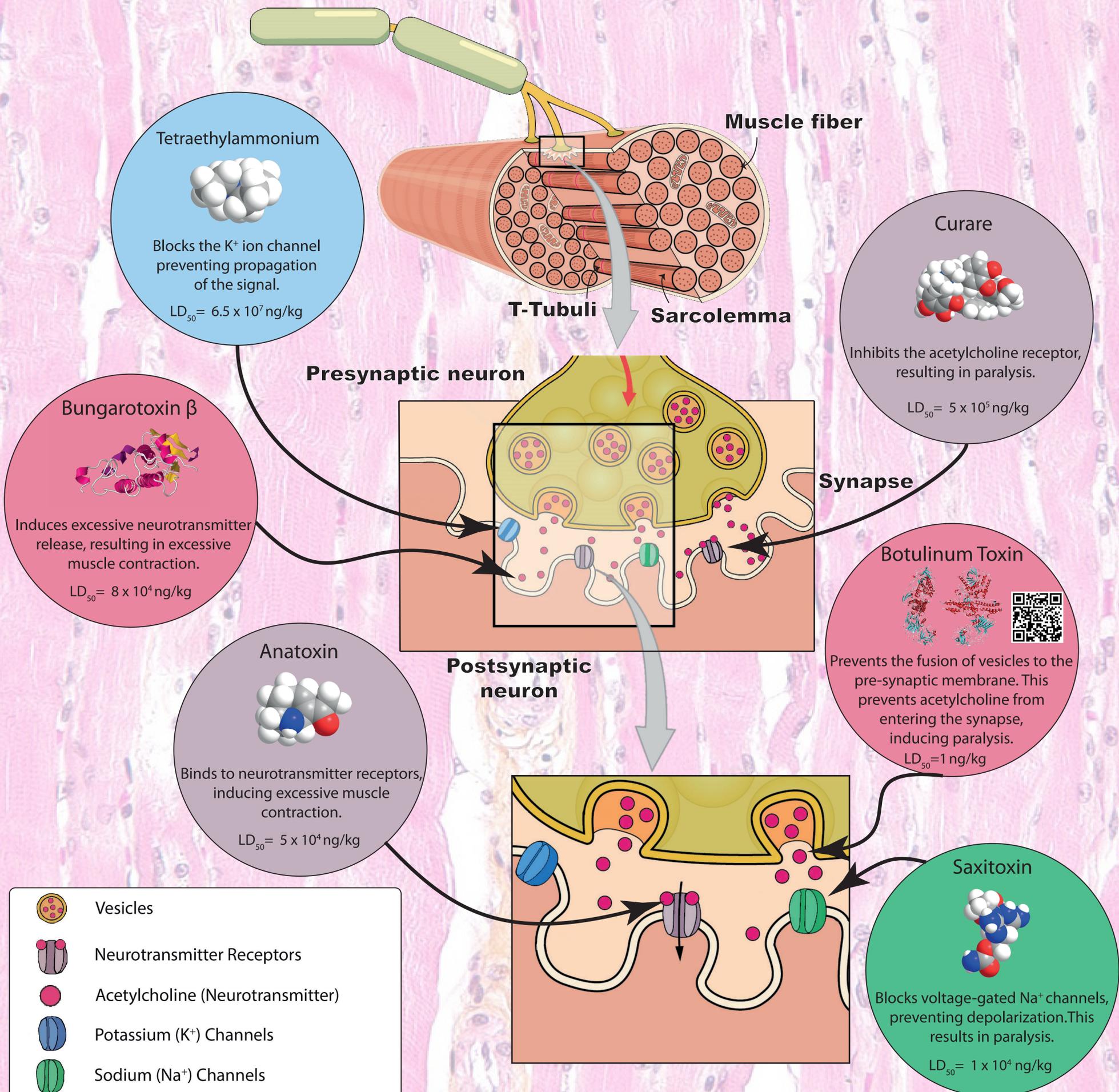
Toxins and the Neuromuscular System

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A **synapse**, the gap between two nerve cells (neurons), allows chemical signals to be relayed from one neuron to another. The junction between a motor neuron and a muscle is referred to as a **neuromuscular synapse**. Neurons rely on the movement of ions (charged species especially K^+ , Ca^{2+} , Cl^- , Na^+) inducing a current, the so-called **action potential** responsible for electrical signalling. Signals are initiated when a **neurotransmitter** chemical (acetylcholine) binds to a specific **receptor** (acetylcholine receptor), triggering the opening of an **ion channel**. Information is transmitted along the neuron, employing a **signaling system** similar to Morse code.



Action Potential Mechanism



Once a signal is released into the sarcolemma (a sheath surrounding the muscle), an action potential travels down the T-Tubuli (structure found between muscle fibers). This triggers a release of calcium ions into the sarcoplasmic reticulum which results in muscle contraction. For more information, scan the QR code.

