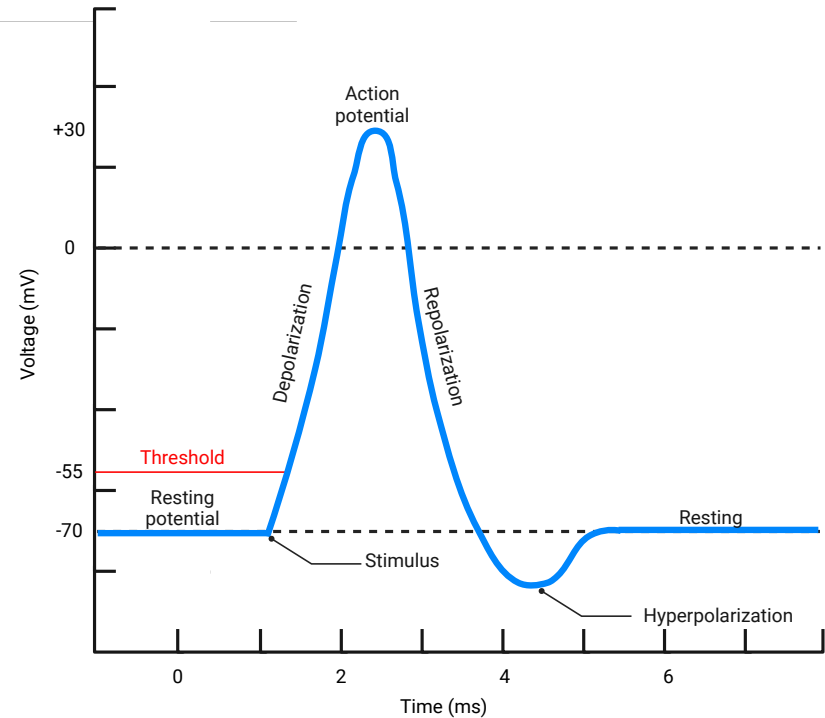
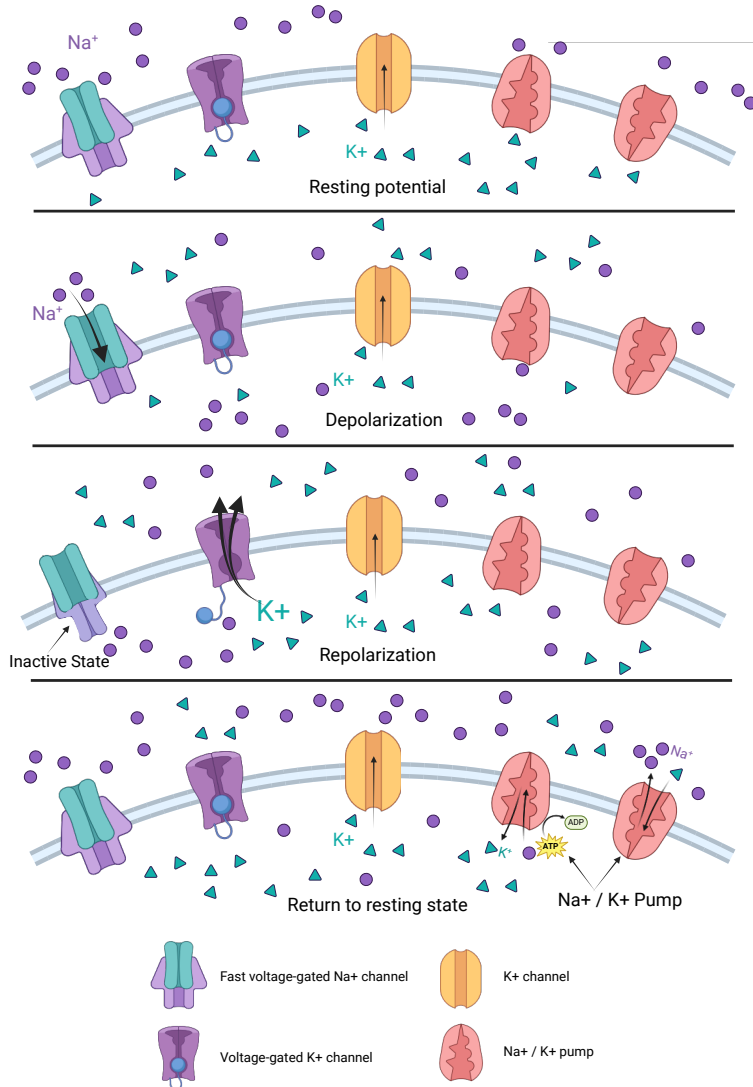


Action Potentials

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A stimulus causes the target cell to depolarize toward the threshold potential.

Once the threshold is reached, voltage-gated Na⁺ channels open and depolarization of the membrane occurs.

At peak action potential, voltage-gated Na⁺ channels close and voltage-gated K⁺ channels open. K⁺ begins to leave the cell.

As K⁺ continues to leave the cell, the membrane becomes hyperpolarized (refractory state) and cannot fire. The voltage-gated Na⁺ channels are locked in an inactive state during this period.

The voltage-gated K⁺ channels close and the resting membrane potential is restored via the Na⁺ / K⁺ pump.