

Action potential reaches nerve terminal lowering membrane potential

Transient opening of Pre-Synaptic Voltage-gated Ca^{2+} Channels

Arrival of an Action Potential

ACh crosses synaptic cleft and binds to post-synaptic AChR (Na^+/K^+ cation channels)

Transient opening of cation channels

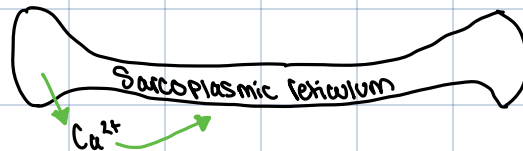
3. Na^+ in K^+ out
Wave of depolarization (muscle action potential) spreads through sarcolemma

1. Calcium influx into nerve terminal

2. Stimulates release of ACh

4. opening of voltage-gated Na^+ channels

5. Opening of voltage-gated Ca^{2+} channels in T-tubules and SR



Sudden increase in sarcoplasmic reticulum Ca^{2+}

Contraction of myofibrils (muscle contraction)