

Abstract View

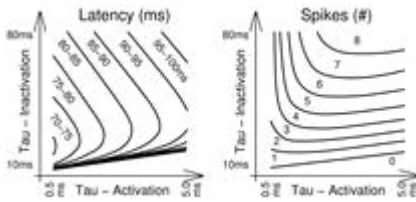
NEURONAL T-TYPE CALCIUM CHANNEL KINETICS AND BURST FIRING

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The low-threshold Ca^{2+} channels that mediate regenerative Ca^{2+} currents in central neurons are responsible for generating bursts of Na^+/K^+ action potentials. In this modeling study we explored kinetic parameters of T-channels for their impact on burst latency and strength. The figure below shows a tradeoff occurring between latency and strength across the ranges of time constants for $\alpha 1G$, H, and I subtypes. We propose alternative assays of bursting that may bear directly on the organization of the encoding gene, with implications for the evolution of these channels.

Supported by: NIH HHMI



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