

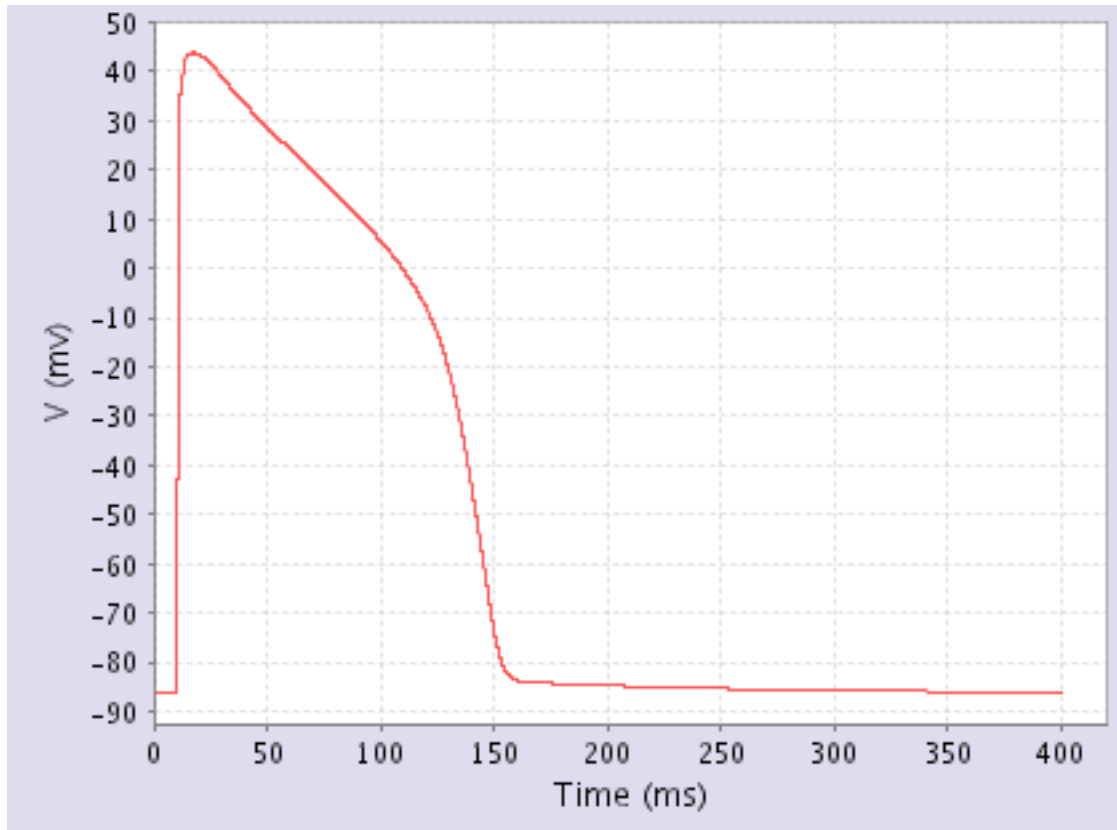
Clancy-Rudy Markovian Model of Wild-Type INa Channels in a Cardiac Ventricular Cell, 1999

v. 1.4

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1. Description



Example action potential (BCL = 400 ms).

This model simulates guinea pig ventricular action potentials. The original Hodgkin-Huxley type formulation of the fast sodium current (INa) was replaced with the Markovian one. It includes three closed states (C3, C2 and C1), an open, conducting state (O), and fast and slow inactivation states (IF and S, respectively).

Abstract excerpt: *"Here we describe a single-channel-based Markovian modelling approach that bridges this gap. We achieve this by determining the cellular arrhythmogenic consequences of a mutation in the cardiac sodium channel that can lead to a clinical arrhythmogenic disorder (the long-QT syndrome) and sudden cardiac death."*

2. References

- Clancy CE, Rudy Y.

Linking a genetic defect to its cellular phenotype in a cardiac arrhythmia.
Nature. 1999 Aug 5;400(6744):566-9.
PMID: [10448858](#)

3. Ordering

- [Order](#) this model via a secure site.