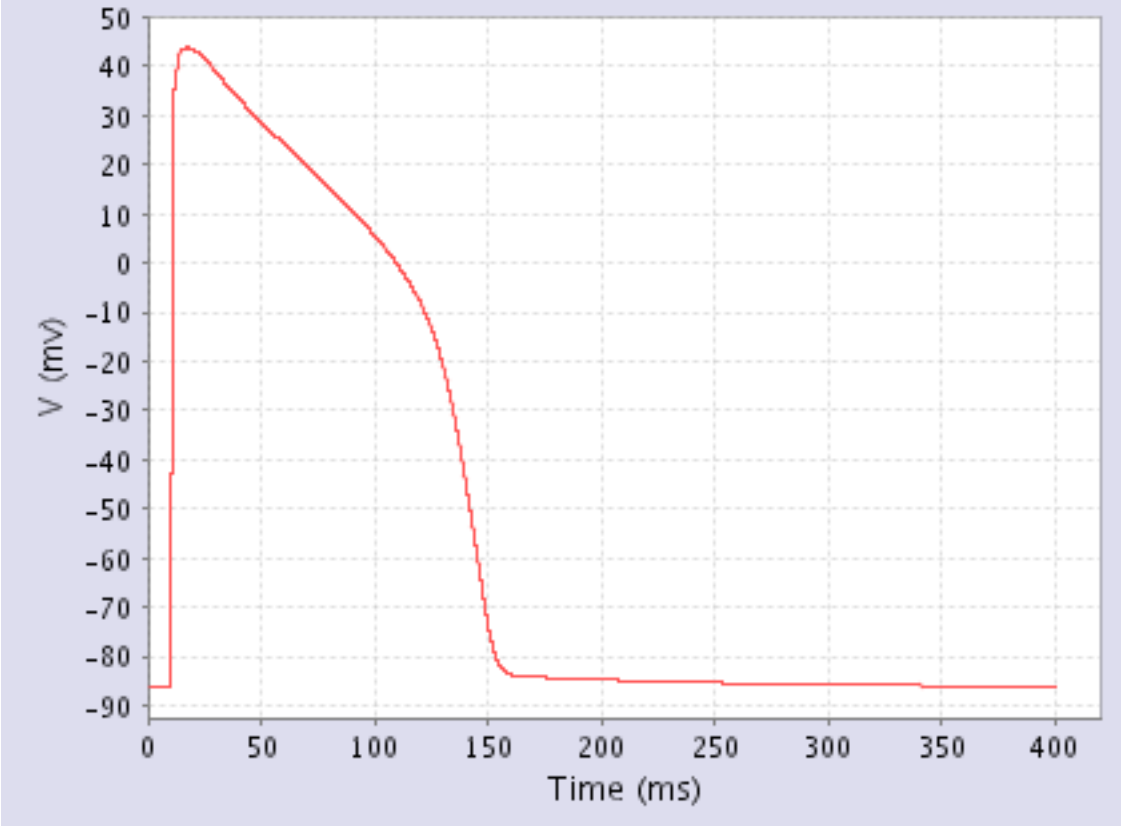
Guinea Pig Ventricular INaWT-CR99-SM

Simucore Model Based Upon: Clancy-Rudy Markovian Model of Wild-Type I_{Na} Channels in a Cardiac Ventricular Cell, 1999; v. 1.4

Table of contents

1 Description



This model simulates guinea pig ventricular action potentials. The orignal Hodgkin-Huxley type formulation of the fast sodium current (I_{Na}) 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** or request further information.