

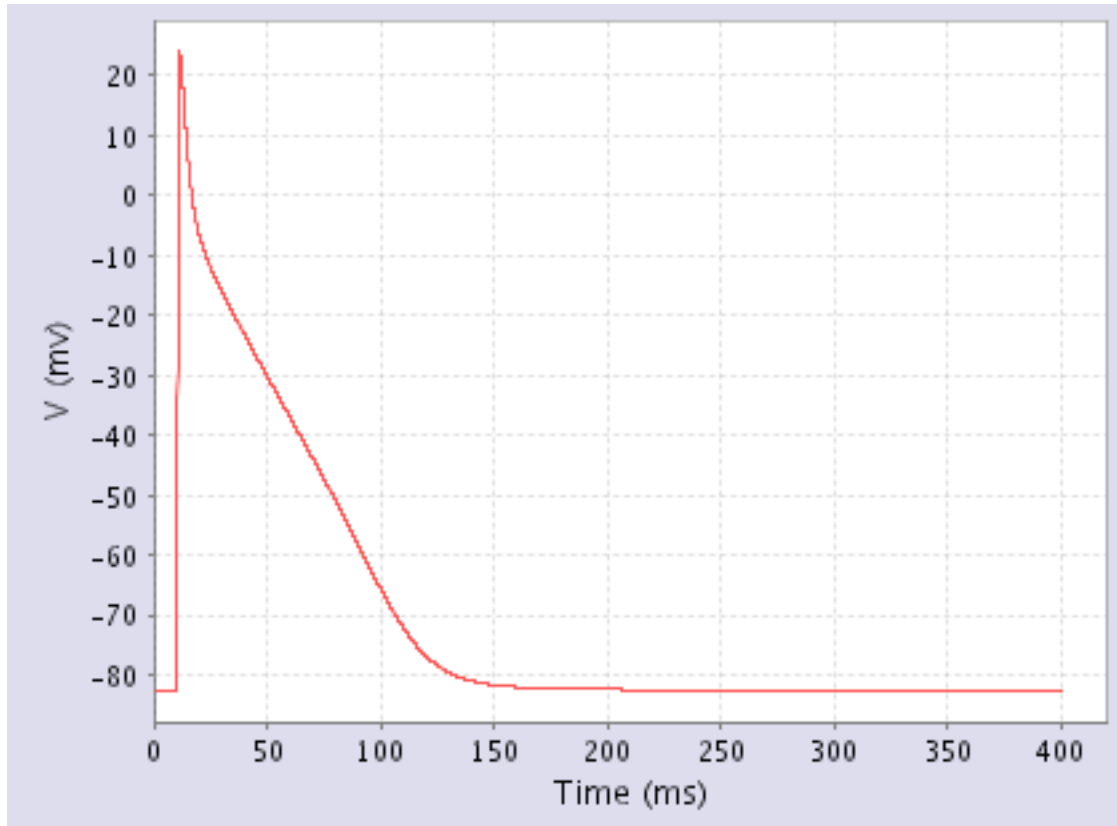
Canine Atrial KRCCN02-SM

**Simucore Model Based Upon: Kneller, Ramirez, Chartier,
Courtemanche, Nattel Model of Canine Atrial Cardiac Action
Potentials, 2002; v. 1.4**

Table of contents

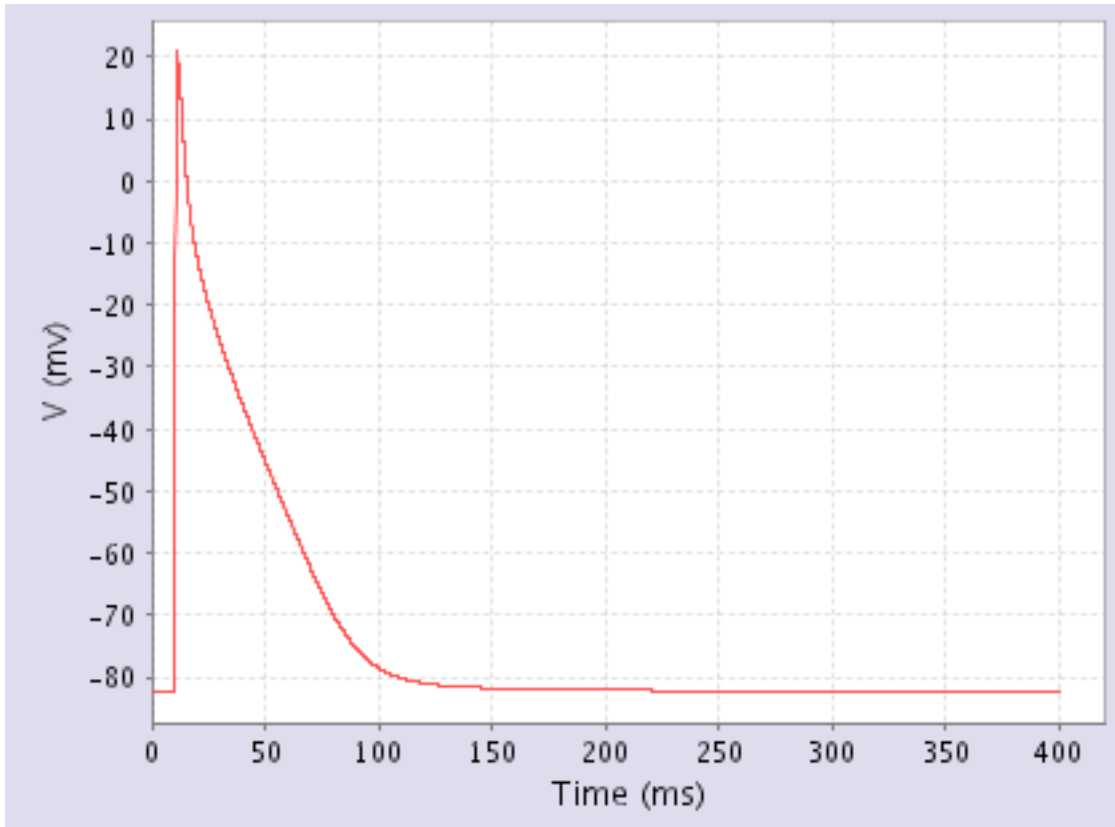
1 Description.....	2
2 References.....	3
3 Ordering.....	3

1 Description



This model improves long-term stability of Ramirez, Nattel, Courtemanche Canine model by adding background Cl^- current and Na^+-Cl^- cotransporter formulations. Maximal conductances of $I_{\text{Ca, L}}$, I_{to} and I_{ur} were also adjusted to stabilize action potential configurations during long runs.

The example action potential below was recorded after 50,000 model pacings at BCL=400 ms. The action potential configuration after this >5.5h long run is very similar to the action potential recorded after only 10 iterations (above). This model is therefore suitable for simulations where long-term ionic concentration stability is required over prolonged periods of time.



Abstract excerpt: *"The present study evaluated transients during long-term simulated activity in a mathematical model of the canine atrial AP."*

2 References

- Kneller J, Ramirez RJ, Chartier D, Courtemanche M, Nattel S. Time-dependent transients in an ionically based mathematical model of the canine atrial action potential. Am J Physiol Heart Circ Physiol. 2002 Apr;282(4):H1437-51. PMID: [11893581](#)

3 Ordering

- [Order this model](#) or [request further information](#).