Review of: "Depolarization block of interneurons"

Changsen Sun[1]

1 Dalian University of Technology

Potential competing interests: No potential competing interests to declare.

This manuscript presented a work on the “depolarization currents block of interneurons action potentials”. It is a mathematical model achievement without experimental results, even if it is not difficult to be carried out! So I feel not being convinced enough, and can't be accepted to publish in the journal! The following questions could be helpful the further thinking:

1. The results presented in Fig. 3 is doubted when considered I_{ext} as an excitation variable! Because HH-model describes a voltage-dependent ionic channel currents, sodium and potassium here. The situation described here never happen in real cell system, i.e. it was not the current, but the membrane potentials that determined the function of action potential. The I_{ext} is a result, not a cause!
2. Some experiments are strongly required to prove the simulation results! Generally, a certain depolarization voltage can excite the cell membrane in an irregulative way. Typically for a hippocampus neuron cell teh maximum is happened at -30mV of the cell membrane potential, other than the -20mV or -40mV. So the results in Fig.3 could be wrong!
3. Ther is no stochastic signal at this level, say mV for membrane potential, or μA for current. The instrument, patch clamp, can record with a more accuracy.