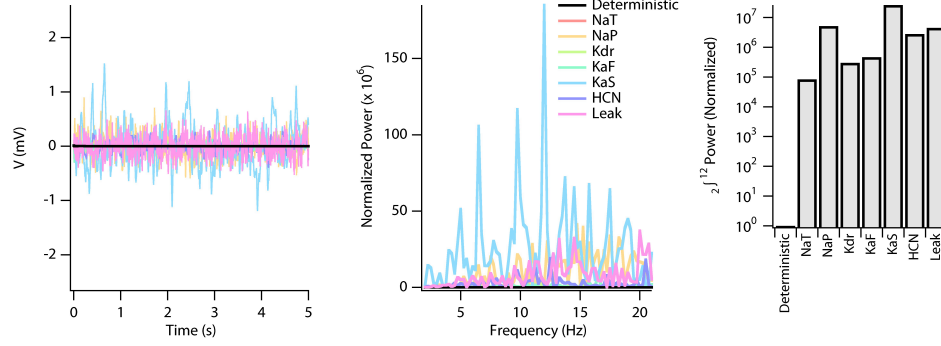


A sufficiency



B necessity

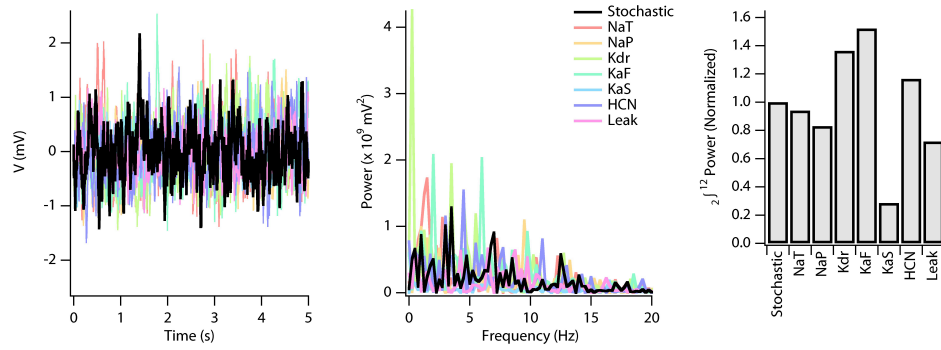


Figure S4: Necessity and sufficiency of stochastic conductances A series of simulations were run where each individual conductance was toggled between a stochastic and deterministic implementation. (A, “sufficiency”) In the “sufficiency” experiments a completely deterministic model (black lines) was compared with a model in which each conductance was implemented as a stochastic conductance individually. (Left panel) A plot of membrane potential for each simulation. (Center panel) A plot of the power spectra of the membrane potential for the entire 5 s of simulation. (Right panel) To examine the role of each channel the power spectra were integrated between 2 and 12 Hz and normalized by the deterministic model. (B, “necessity”) Analogous to the simulations in A, a completely stochastic model was compared with simulations in which individual conductances were modeled as deterministic conductances. Corresponding panels are the same as in A.