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See caption on next page. To animate these simulations, open the following files in a web browser. a: Supplementary Video 6, nn1599-S11.gif; b: Supplementary Video 7, nn1599-S12.gif; c: Supplementary Video 8, nn1599-S13.gif

Supplementary Figure 3

Supplementary Figure 3. Gating of PP-evoked dendritic spikes by SC EPSPs (model cell 2, with animations).

(a) Response to activation of the weak dendritic excitability model (cell 2) with 10% of PP synapses. Left: color map of peak depolarization. Animations in the corresponding files plot instantaneous voltage. Middle: Voltage versus time plots at three dendritic locations (soma, black; apical dendrite, green; apical tuft, red; positions indicated by colored dots on color map). Right: plot of peak voltage (black) as a function of distance from the soma for a path along the main apical dendrite to the end of the apical tuft bearing the red dot. The red line indicates the voltage profile at the end of the simulation; the instantaneous voltage displayed in the animations is more informative. To animate this simulation, open Supplementary Video 6, nn1599-S11.gif, in a web browser.

(b) Response of the same model to activation of 3% of Schaffer collateral synapses in the upper apical dendrites. To animate this simulation, open Supplementary Video 7, nn1599-S12.gif, in a web browser.

(c) Response of the same model to coincident activation of 10% PP and 3% SC synapses. The data shown here are identical to those shown in Figure 3, but they can be animated. To animate this simulation, open Supplementary Video 8, nn1599-S13.gif, in a web browser.