**Supplementary Figure 3.**

Kinetics of PG cell activation during DDI. A, Cells generating calcium transients during tufted cell dendrodendritic inhibition are periglomerular neurons. Top left, a voltage step delivered to a TC (white, CsCl internal) evokes calcium transients in 5 cells (colored circles). Bottom left, kinetics of calcium transients and TC DDI. Middle top, the cell in the magenta circle of the image to the left was targeted for recording and filled with Alexa 568. Right top, overlay of the targeted cell filled with Alexa 568 and the field of cells generating calcium transients. Middle bottom, in voltage clamp ($V_m=-70$ mV, CsCl internal) the target cell had an input resistance of ~1 Gohm and displayed spontaneous EPSCs. Bottom right, in current clamp a hyperpolarizing current step from the resting potential (-60 mV) evoked a rebound calcium spike. The small soma and dendritic morphology are consistent with previous anatomical descriptions of PG cells. Similar results were observed for 9/9 targeted recordings in separate dye-loaded slices. B, PG cell activation in the presence of TTX (1 μM). Left, a tufted cell voltage step (50 ms) activates 3 PG cells. Same scale as A. Middle, kinetics of PG cell activation and DDI from the same glomerulus. Right, summary histogram showing the onset of activation of PG cells from 5 tufted cell recordings in TTX (29 trials, 3-6 PG cells per TC). A 50 ms voltage step was delivered to the TC at time 0. Blue bars represent cells activating during the step. Superimposed on the histogram is the average timecourse of DDI from the same trials.