**Effect of increased oscillatory frequency on the PRC.**

(a) Sample of current-clamp recordings showing the response of a CA3 neuron (gray trace) to the EPSG (arrows: times of stimulation) during 8 Hz oscillation (black trace). The vertical dashed line represents the average phase at which spikes occurred during 8 Hz oscillation without EPSG. As with 5 Hz oscillation, EPSG could delay or advance the spike phase following stimulation during 8 Hz oscillation.

(b) Smoothed PRCs (black traces) and raw data points (dots) obtained from CA3 neurons during 8 Hz oscillation (n = 6). PRCs were smoothed and normalized as described in Figure 3d-e of the main paper. All PRCs show prominent phase advancement and delay of spikes.

(c) One of the PRCs from b (black trace and circles) superimposed onto a PRC during 5 Hz oscillation (gray trace and circles). Both PRCs were obtained with same amplitude EPSG stimulation (1.5 nS). Black and gray horizontal dashed lines show ± 2 s.d. of the average spike phase without EPSG for the correspondingly colored PRCs.