

Figure S1: Population phase lock and phase precession. A) Average percentage of APs in each 5-degree phase bin, for all CTR and SE cells. To compensate for phase differences across animals, the firing phase of each cell is subtracted to its average phase. B) Population phase precession pattern, for each group, 50 randomly chosen cells contributed 45 APs. Rat position is expressed in normalized units and, to compensate for phase differences across rats, the firing phase of each cell is aligned to the average phase in the first third of the firing field. Phase precession patterns differed significantly ( $p = 0.039$ ),  $r$ : distance-phase correlation.