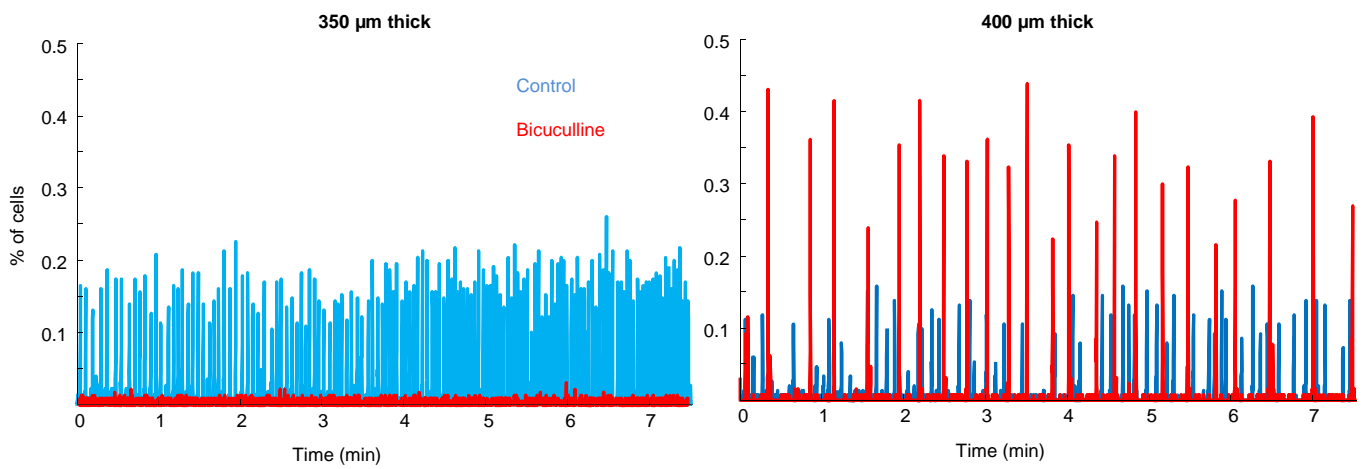
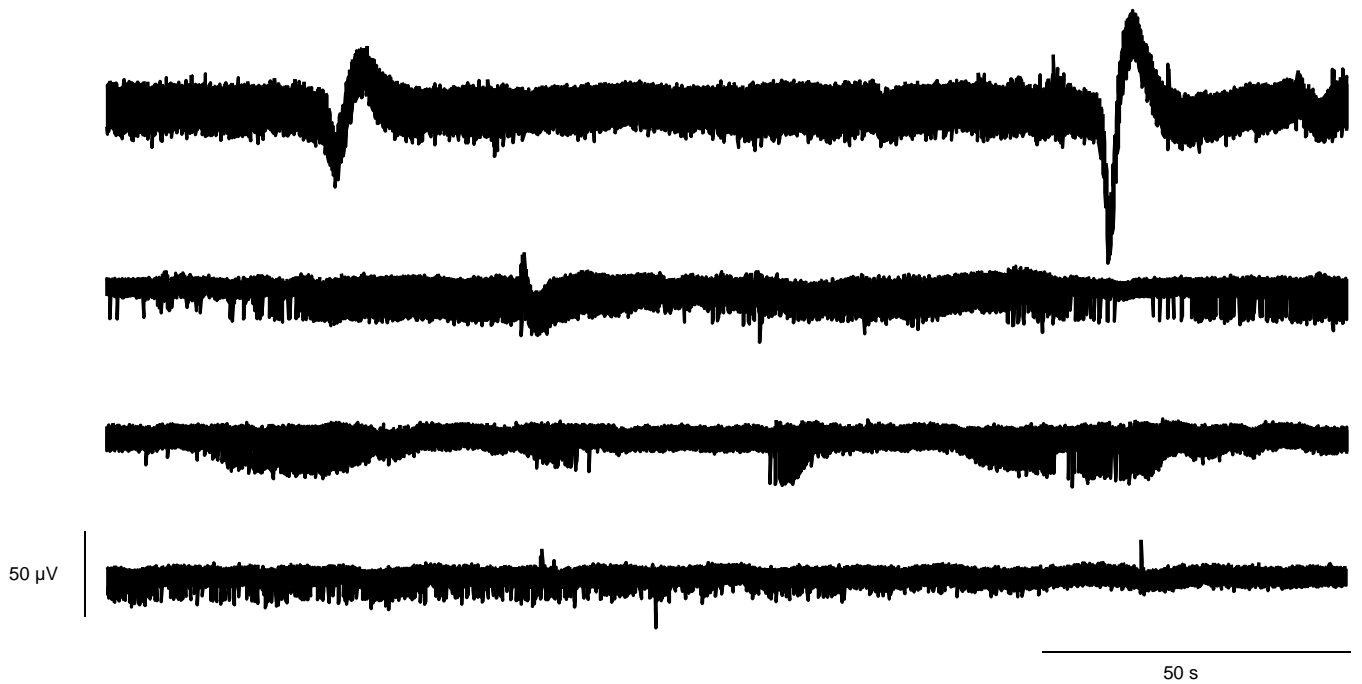


Supplementary Fig S1. Simultaneous recording of network bursts in the absence of fast GABAergic transmission at P7, with an extracellular field electrode together with calcium imaging. Top: Field activity from a recording electrode located in CA3c. Bottom : Rasterplot of the calcium onsets from cells imaged in CA3a/b at the same time as the field recording. Three network bursts could be simultaneously detected with electrophysiological and optical approaches.

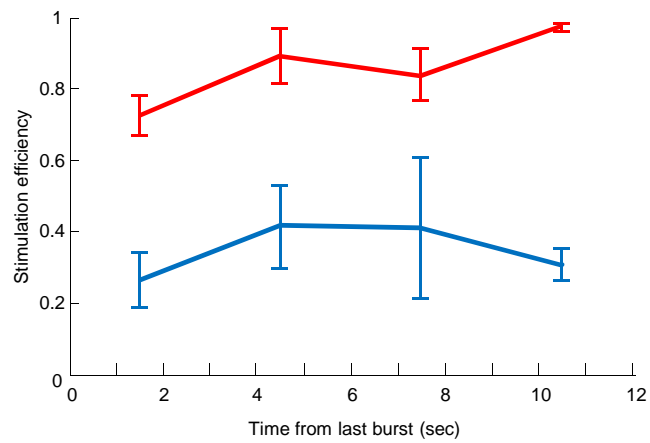


Supplementary Fig S2. Network activity in the absence of fast GABAergic transmission is dependent on the slice thickness.

Histograms plotting the fraction of active cells, out of the total population of imaged cells, as a function of time, detected with calcium imaging at P7 with (red) or without (blue) bicuculline (10 μ M). Experiments were made in 350 μ m- (left) or 400 μ m- thick slices (right). Note that network bursts occur in the presence of bicuculline only in slices that are more than 400 μ m thick (red peaks in the right histogram).



Supplementary Fig S3. Network activity is not recurrent in hippocampal slices from the adult mice in the absence of fast GABAergic transmission. Examples of field potential recordings from the CA3 region in the absence of fast GABAergic transmission from four slices from mice aged between P45 and P120 (a total of 48 slices from 15 animals were recorded). Note that recurrent network bursts are less frequent than when recording from juvenile mice.



Supplementary Fig S4. Stimulation efficiency of EFNs (red) and LGNs (blue) as a function of time following a network burst.

Data from young mice (P7) are considered. The stimulation efficiency measures the number of cells activated in the first seconds following the photostimulation normalized to the average number of cells recruited in spontaneous network synchronizations. Error bars are SD,