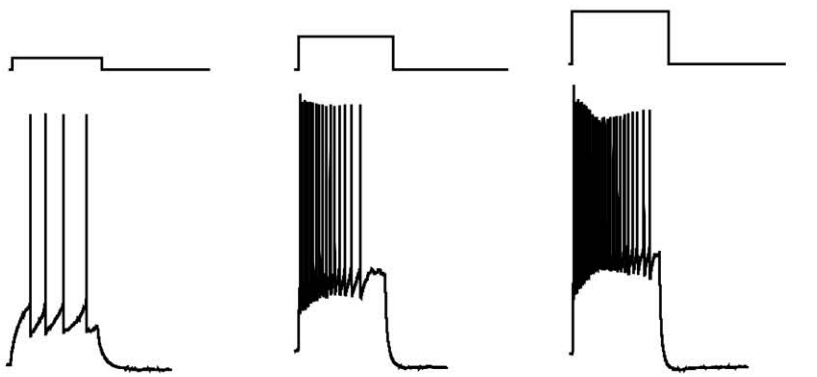


**Supplemental Figure 1. Firing pattern characteristics of R and L-M interneurons in area CA3** Cells were classified on the basis of their adaptation ratio (AR) in spike firing evoked by a depolarizing current step of 150 pA above the current threshold for the first spike (AR was calculated as the ratio between the last ISI divided by the first ISI). Examples of membrane responses to somatic current injections from L-M interneurons (upper and middle traces, AR = 2.1 and 1.4, respectively), and one R interneuron (lower traces; AR = 1.1). Current injection ranged from 50 to 100 pA (left traces), 200-300 pA (middle traces), and from 400-500 pA (right traces). Upper scale 500 pA; lower scale 20 mV, 200 ms.

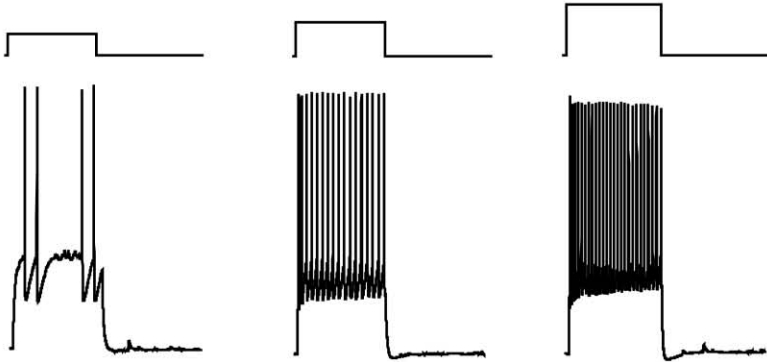
**Supplemental Figure 2. Transection of the stratum lucidum does not affect coincidence detection** A and B, schematic representations of the hippocampal slice preparation depicting the cut through across the s. radiatum, s. lucidum and s. pyramidale all the way through the s. oriens and Alveus (Lucidum transection) to prevent orthodromic activation of MF in the s. lucidum from the SDG stimulation site. C, average EPSPs (N = 5) evoked from a typical experiment in one L-M interneuron from a transected slice. Dotted line in the combined EPSPs indicates the amplitude of the second EPSP ('Actual') evoked alone. D, Bar graph summarizes the SR at the 10-ms ISI in transected slices. The transection of MF did not change the arithmetic of summation between PP EPSP and MF EPSP (hatched bar). Error bars indicate SE. Scale 2 mV, 20 ms.

Supplemental figure 1.

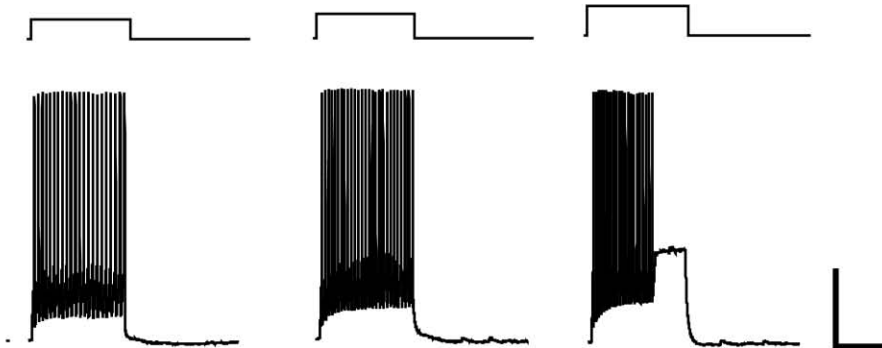
### Adapting interneuron (33%)



### Weakly-adapting interneuron (60%)

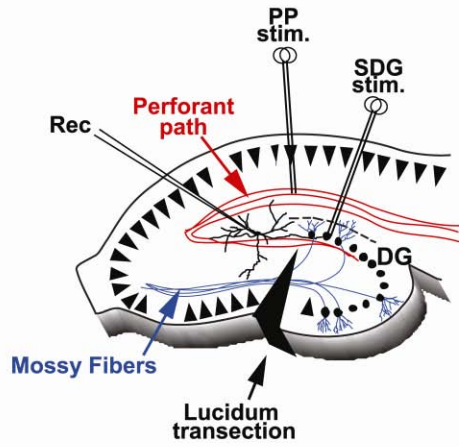


### Non-adapting interneuron (7%)

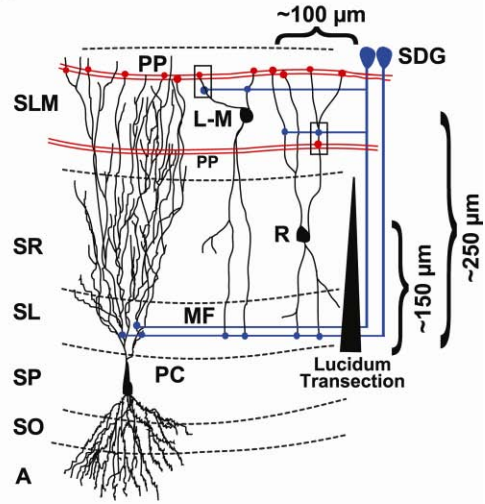


Supplemental figure 02.

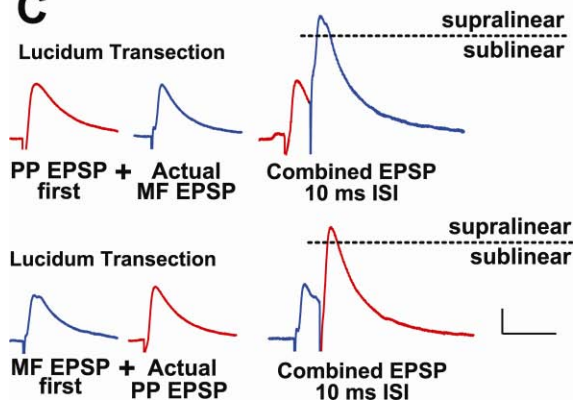
**A**



**B**



**C**



**D**

