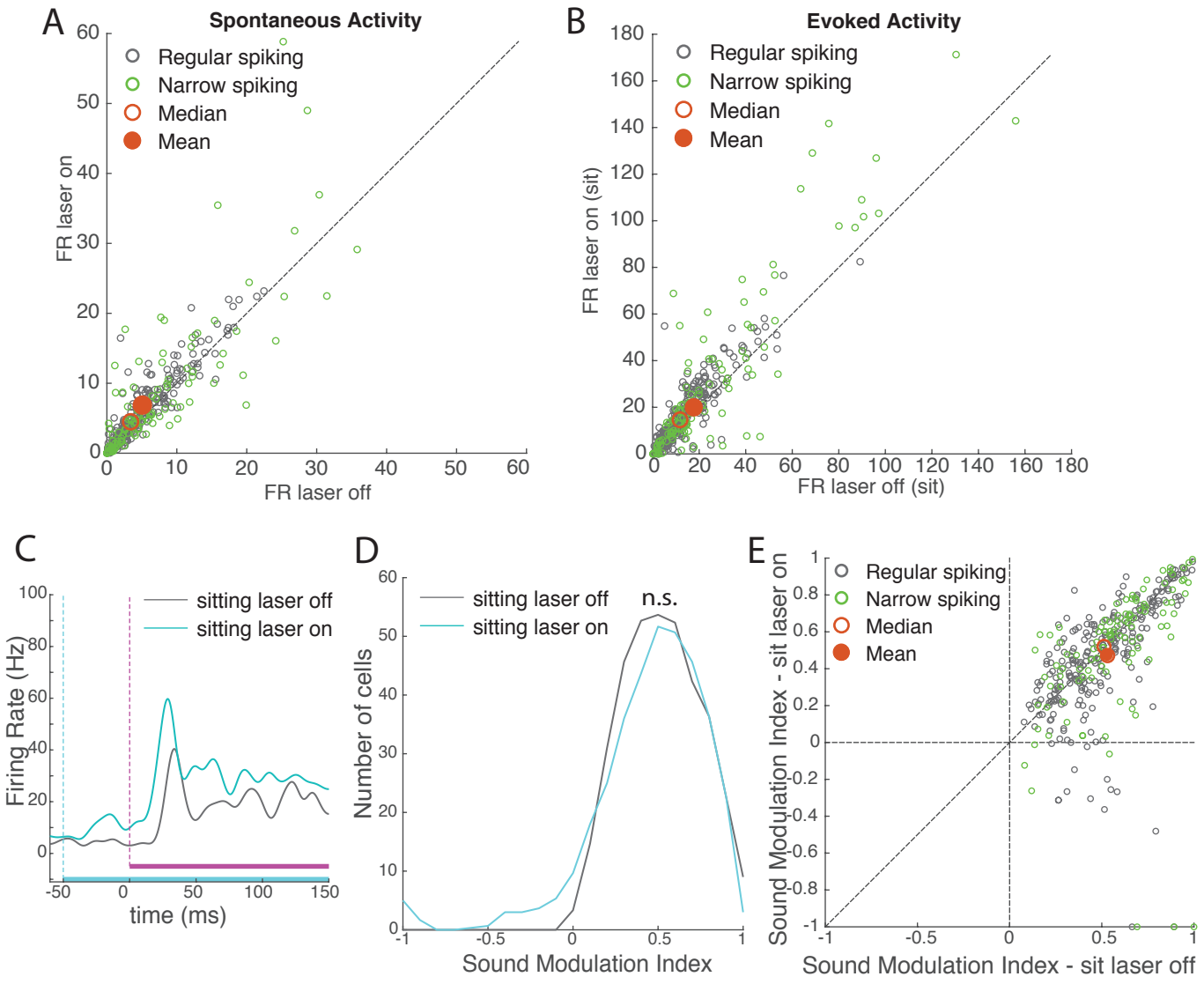

Figure 3. Effects of VIP activation on auditory cortical activity. Similarly to running, VIP activation increases spontaneous firing rate, but this change did not reduce sound-evoked modulation of auditory cortical neurons.

A. Spontaneous firing rate of recorded neurons (N = 372) during laser-off and laser-on trials. Green: narrow-spiking neurons, grey: regular-spiking neurons. Red filled circle: population mean, red unfilled circle: median.

B. Onset response firing rate of recorded neurons (N = 372) to a white noise stimulus (0 -100 ms post stimulus onset) during laser-on and laser-off trials.

C. Mean response of an example neuron to a white noise stimulus during laser-off (grey) and laser-on (cyan) trials, while the mouse was sitting. White noise is depicted in magenta (vertical dashed line shows onset), laser is depicted in cyan (vertical dashed line shows onset).

D. Distributions of sound modulation indices while the mouse was sitting with (cyan) and without (grey) VIP activation. VIP activation had no net effect on sound modulation index (sound MI laser-off = 0.53 ± 0.01, laser-on 0.47 ± 0.02, rank-sum p = 0.12, N = 372 cells).

E. Comparison of sound modulation index in sitting laser-off versus laser-on conditions for each cell (N = 372).