Supporting Information

Galvanic Redox Potentiometry-Based Microelectrode Array for Synchronous Ascorbate and Single-Unit Recordings in Rat Brain

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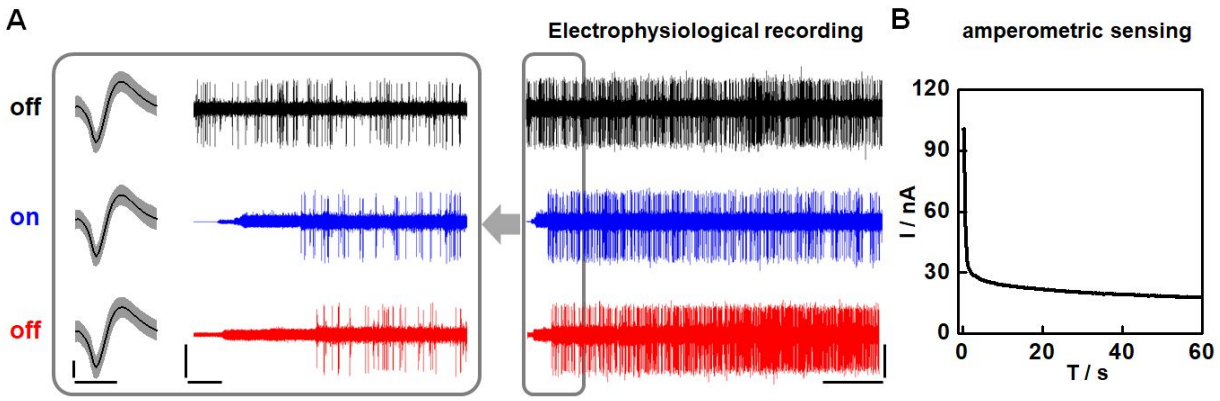

Figure S1. Reciprocal influence between amperometric sensing and electrophysiological recording. (**A**) Representative extracellular action potential traces recorded by MEAs before (black), during (blue) and after amperometric recording. Scale bars, 100 μV (vertical), 10 s (horizontal). Enlargement of the area is indicated with the gray box shown in the right panel (left, vertical scale bars, 100 μV; horizontal scale bar, 1 s) and its corresponding waveforms of detected neuron (vertical scale bar, 50 μV; horizontal scale bar, 0.4 ms). Switch-on and switch-off of amperometric sensing are indicated as "on" and "off". (**B**) Plot of current *vs*. time recorded with the working electrode polarized at 30 mV over 60 s during electrophysiological recording.

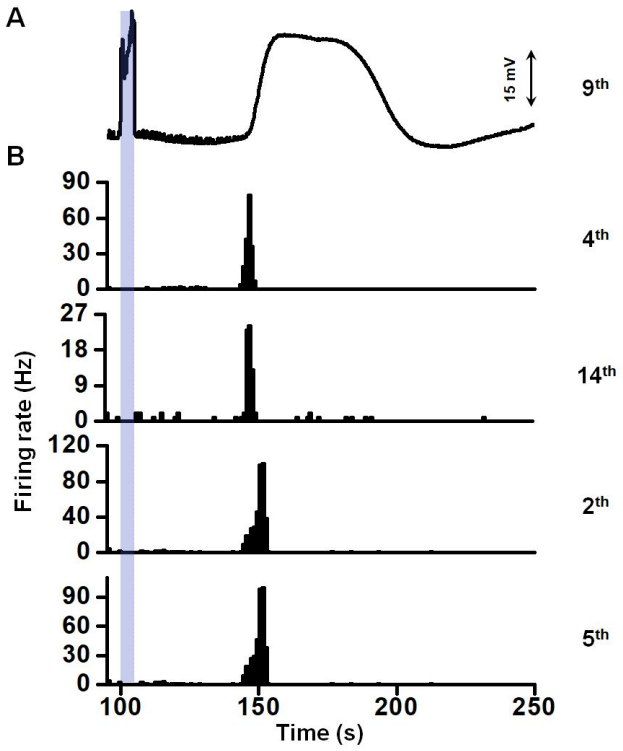

Figure S2. Enlargement of the short period (95-250 s) of electrochemical signal (**A**) from **Figure 5B** and spike firing rates (**B**) from **Figure 5C**.