

ARTICLE

Simultaneous Study of Subcellular Exocytosis with Individually Addressable Multiple Microelectrodes

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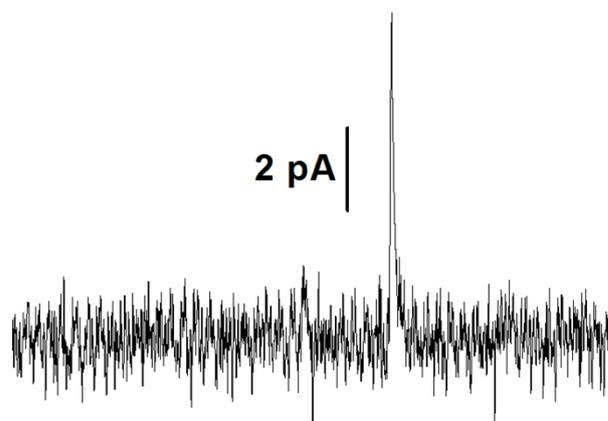
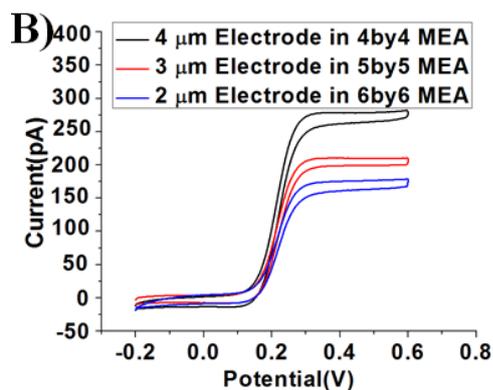
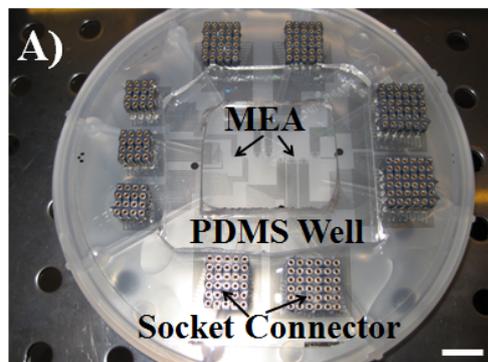


Fig. S1. A) Optical photo of the whole device with nine MEAs and nine socket connectors and one PDMS well for cell culture (scale bar: 10 mm); B.) Cyclic voltammetry for electrochemical characterization of 4 μm , 3 μm and 2 μm microelectrodes in three kinds of MEAs (scan rate: 20 mV/s) obtained in 1 mM FcMeOH in PBS buffer).

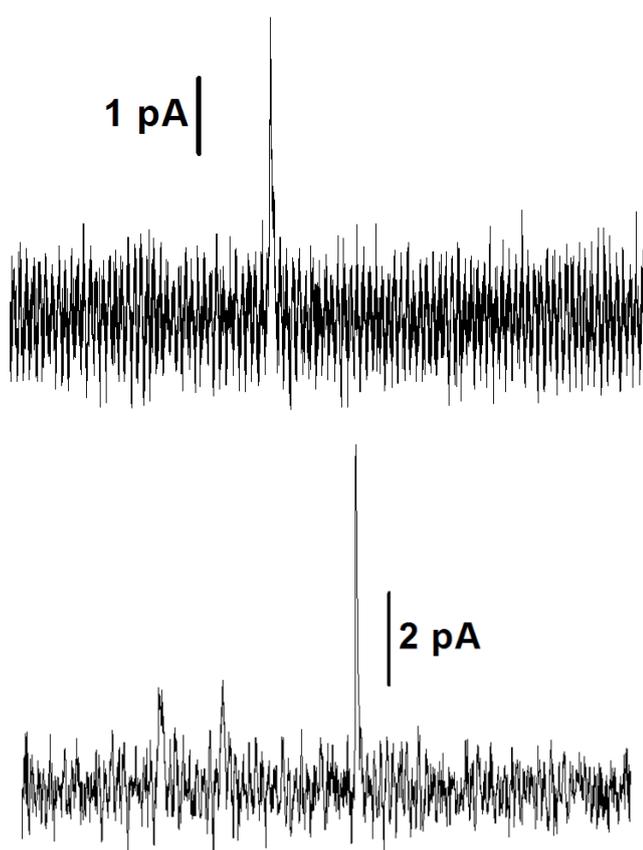


Fig. S2. Three 1-s time periods showing exocytotic responses at MEAs at a PC12 cell after potassium stimulation. The noise level is in the 1-2 pA range.

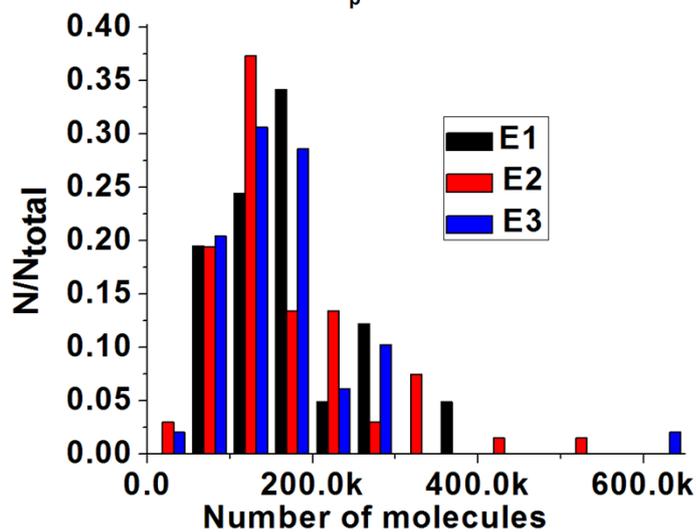
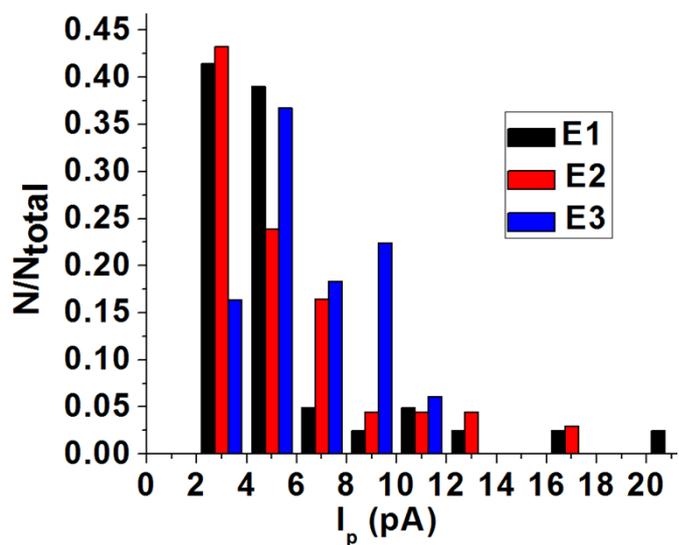
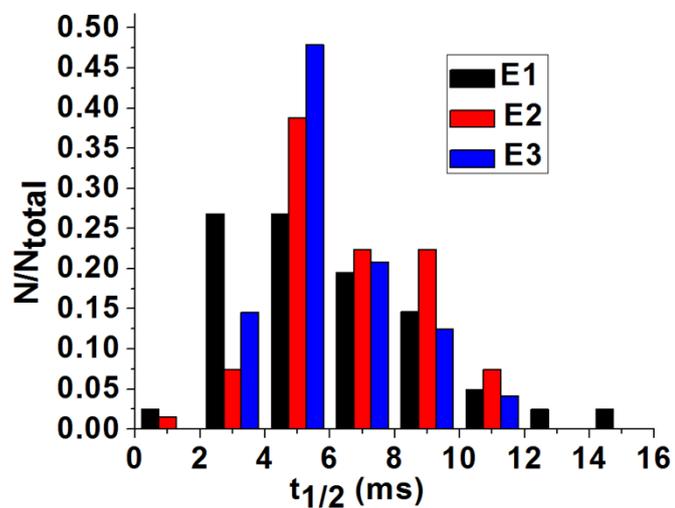


Fig. S3. Frequency histograms for the spike half-width ($t_{1/2}$), spike peak current (I_p), and number of released dopamine molecules for different electrodes, E1-E3, at a 4 by 4 MEA. The data are processed from the traces presented in Figure 2C.

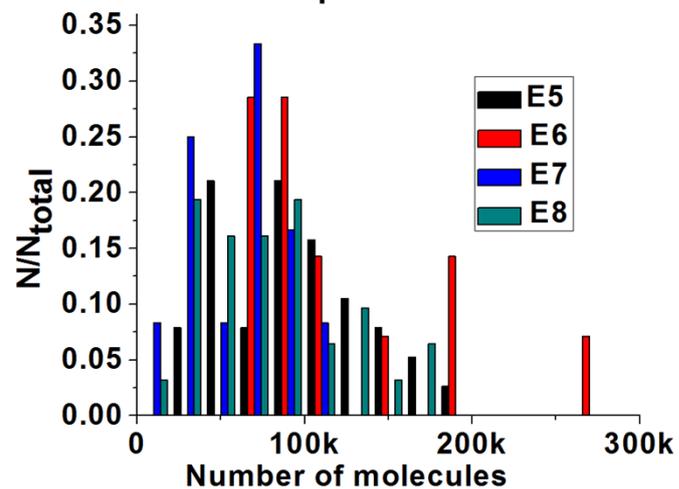
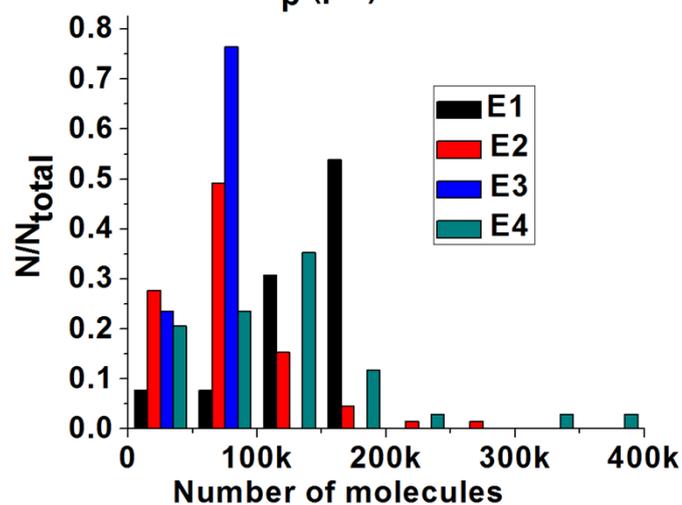
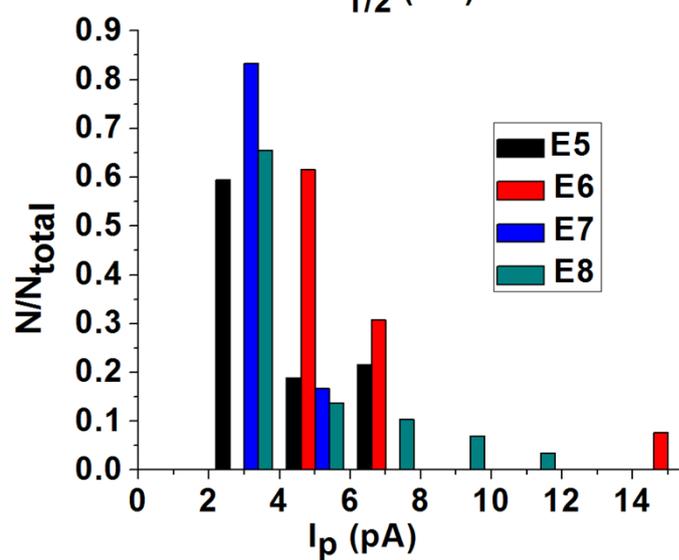
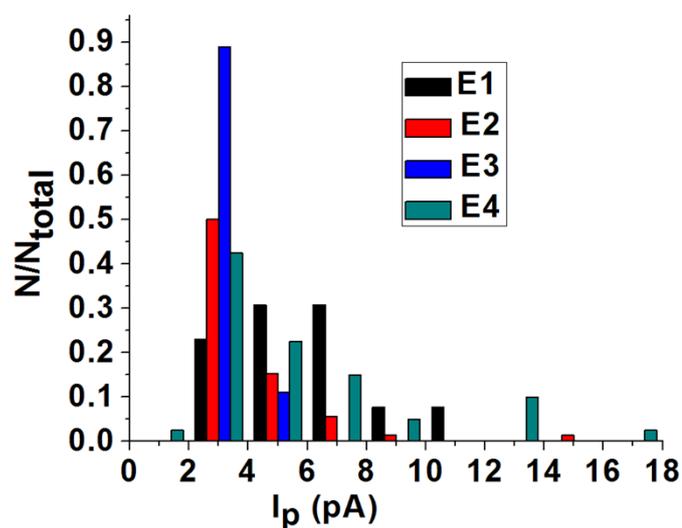
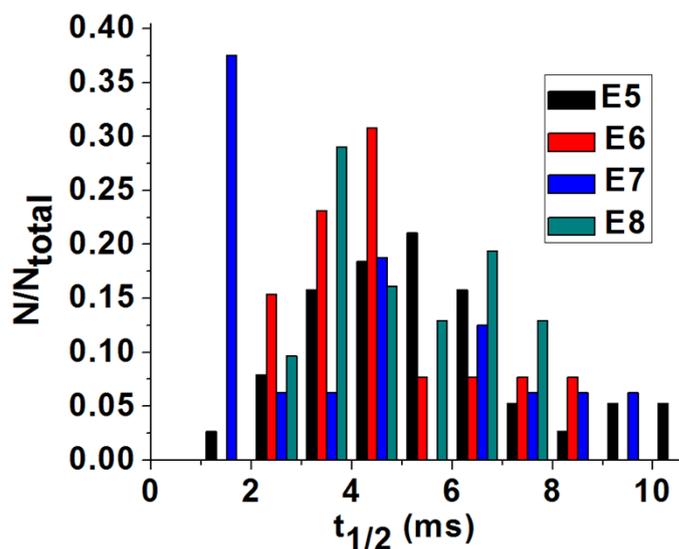
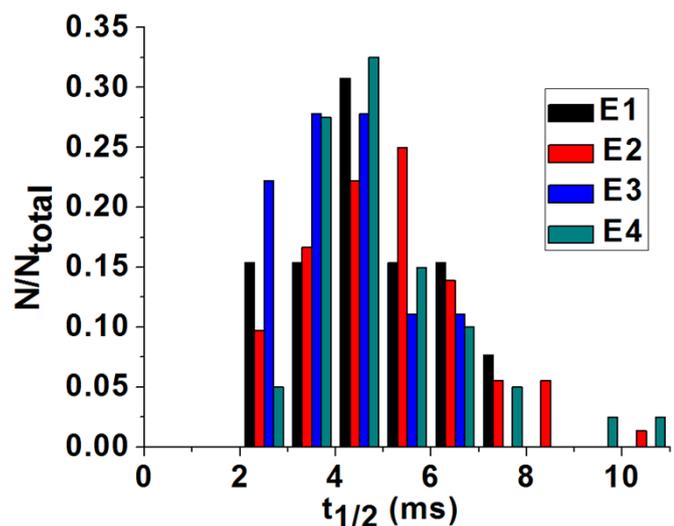


Fig. S4. Frequency histograms for the spike half-width ($t_{1/2}$), spike peak current (I_p), and number of released dopamine molecules for different electrodes, E1-E4, in a 5 by 5 MEA. The data are processed from the traces presented in Figure 3C.

Fig. S5. Frequency histograms for the spike half-width ($t_{1/2}$), spike peak current (I_p) and number of released dopamine molecules for different electrodes, E5-E8, in a 4 by 4 MEA. The data are processed from the traces presented in Figure 4D.

Notes and references

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