Electronic Supplementary Material (ESI) for RSC Advances.

Measuring Tryptophan Dynamics Using Fast Scan Cyclic Voltammetry at Carbon Fiber Microelectrodes with Improved Sensitivity and Selectivity

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Supplemental Information

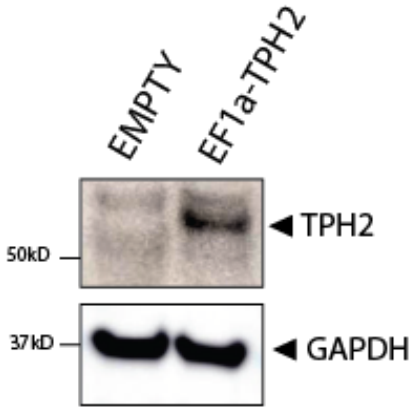

Figure S1. Validation of TPH2 overexpressing PC12 cells. Western blot for TPH2 shows strong overexpression of TPH2 (predicted molecular weight ~56kD) in the pLVX-EF1α-TPH2-IRES-mCherry expressing cell line relative to cells expressing an empty vector. GAPDH loading control is shown as reference.

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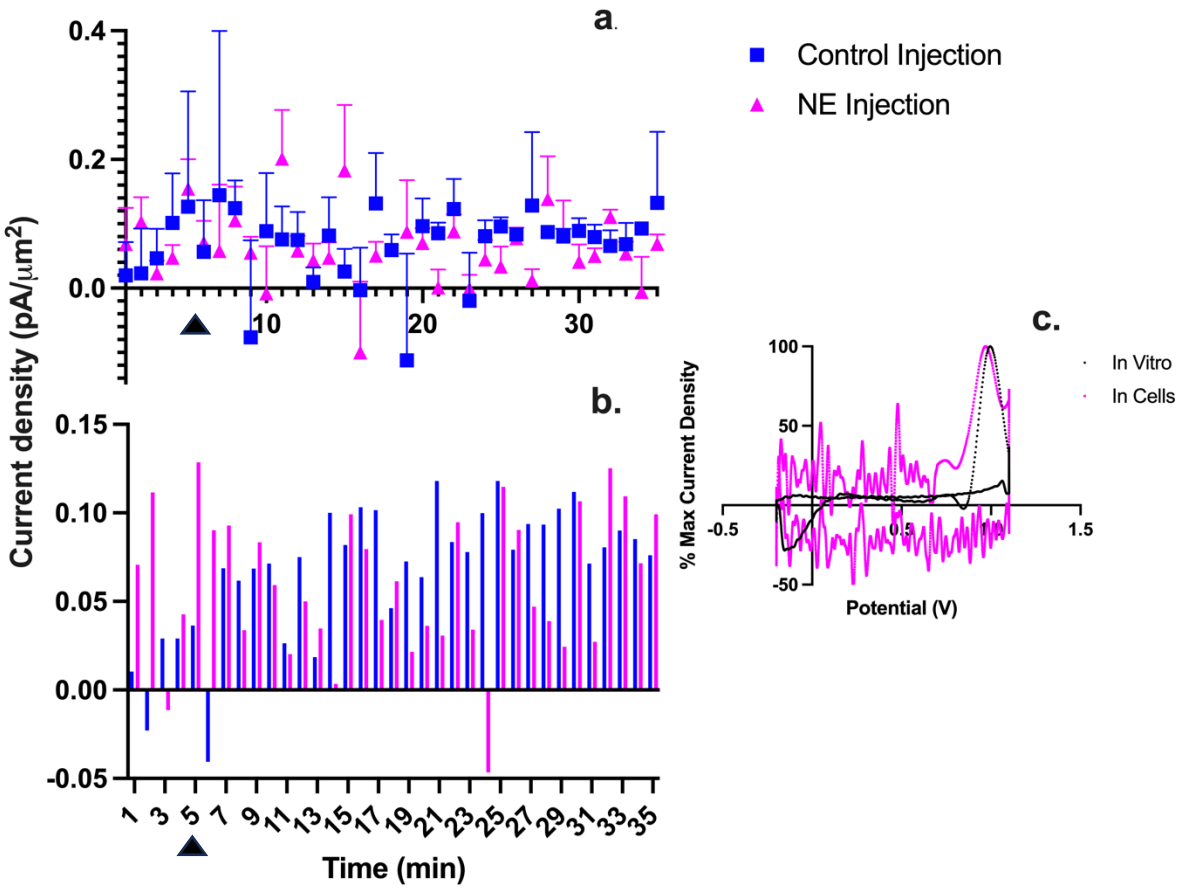

Figure S2. These are the unbinned data for the pinealocyte recordings. a) Average current densities for Trp oxidation measured over the course of 35 min. At 5 min (indicated by the black triangle), either water (control injection, 5 μL) or water with norepinephrine (NE injection, 5 μL, 1 mM) was added to the cell culture plate. Error bars indicate SEM (n = 3 different wells of cells). b) Because each well of cells have natural variations in their dynamics and averaging them can remove these nuances, we also plotted a single representative bar graph from each of the control and NE group side by side. A representative bar graph from individual wells in which pinealocytes were exposed to either media (blue) or norepinephrine (pink) injection at 5 min (black triangle). c) Overlay of the normalized CV from cell recordings and in vitro injections of Trp. The CV from the cell recording had significantly higher noise because the signals were significantly smaller.

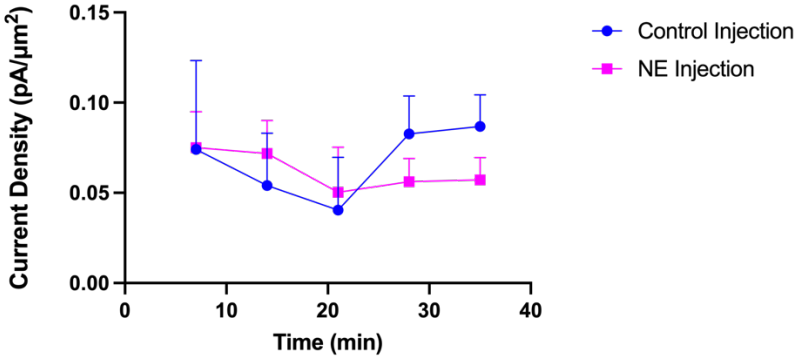

Figure S3. Plot of binned (7 min bins) current densities for control (water) and NE injections as a function of time.

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