

Supporting Information

Galvanic Redox Potentiometry for Self-driven *In Vivo* Measurement of Neurochemical Dynamics at Open-Circuit Potential

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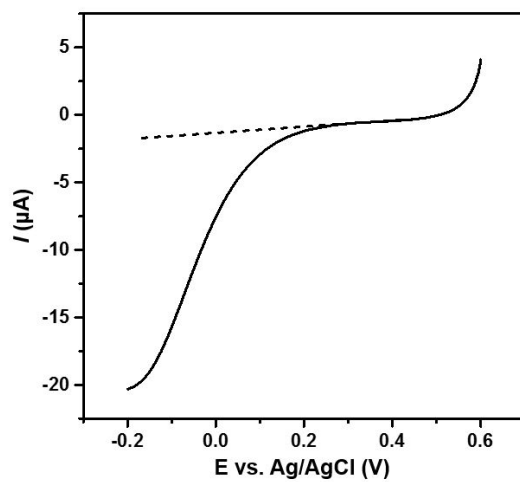


Figure S1. Linear sweep voltammograms of oxygen reduction on Pt wire electrode in air-saturated PBS. Scan rate, 2 mV s⁻¹.

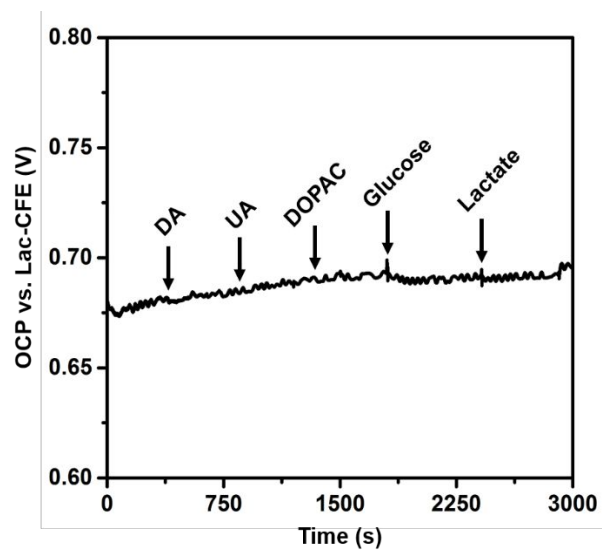


Figure S2. OCP (vs. Lac-CFE) response starting with 0.2 mM AA in aCSF to sequential injections of 10 μ M DA, 80 μ M UA, 10 μ M DOPAC, 1 mM glucose and 1 mM lactate.

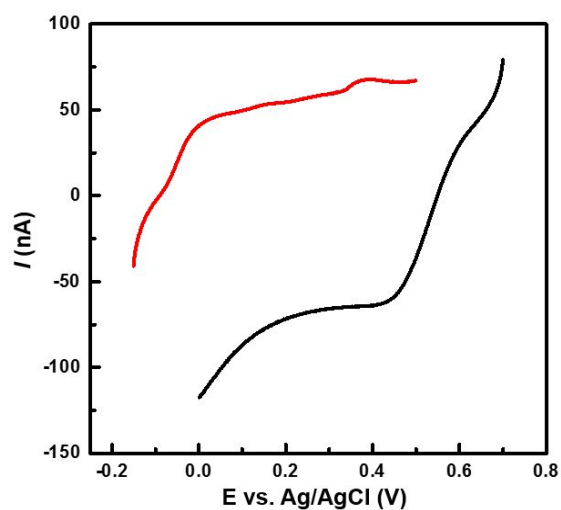


Figure S3. Linear sweep voltammograms of AA oxidation on SWNT-CFE (red line) in aCSF containing 0.2 mM AA and oxygen reduction on micropipette-compartmentalized Lac-CFE (black line) in 50 mM phosphate buffer containing 100 mM NaNO_3 and 0.2 mM ABTS. Scan rate, 2 mV s^{-1} .

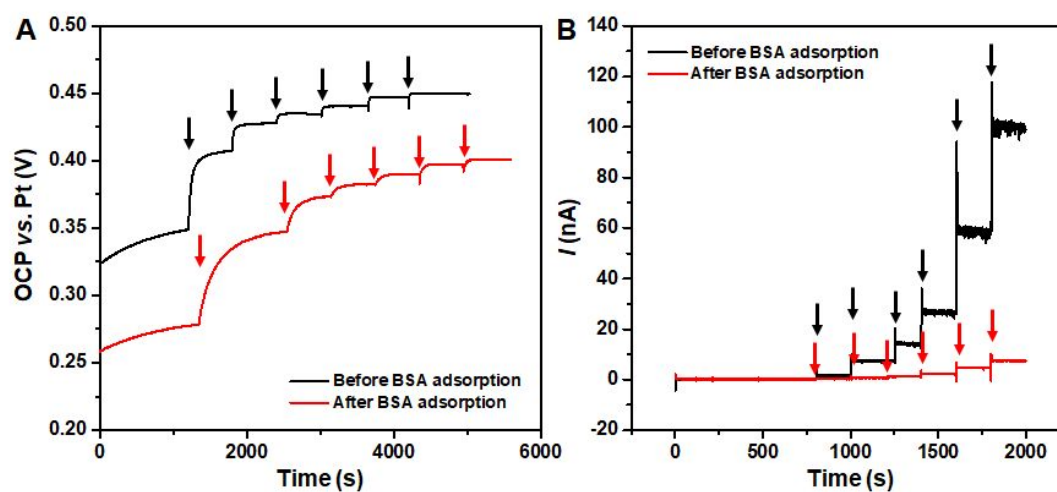


Figure S4. Time responses of the GRP sensor (A) and amperometric sensor (B) to injections of 1 μM , 10 μM , 50 μM , 100 μM , 200 μM , 500 μM and 1 mM AA before and after BSA adsorption (4 h in 40 mg mL^{-1} BSA solution).

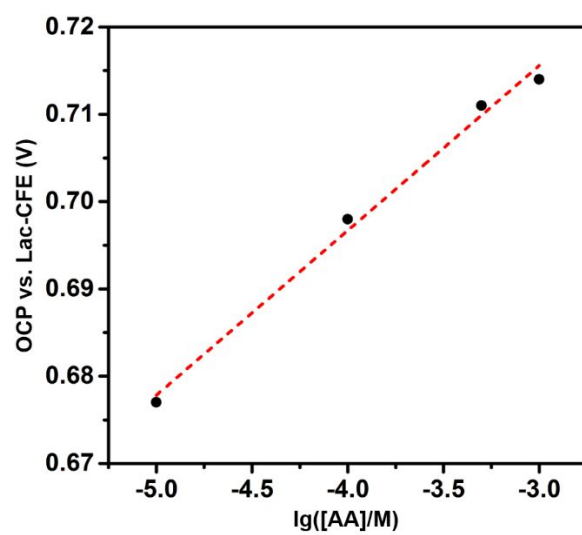


Figure S5. Calibration curve of a Lac-CFE-referenced GRP sensor.

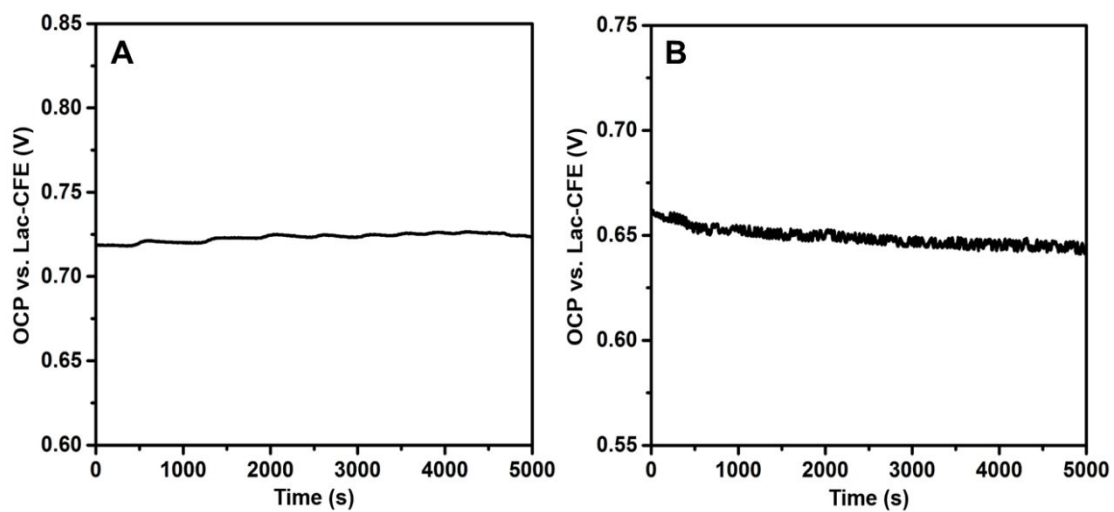


Figure S6. Steady-state OCP of the Lac-CFE-referenced GRP sensor in aCSF containing 25 mM AA (**A**) or in the live rat brain cortex (**B**).

