Supplementary Materials and Methods

Surgical Procedures: Stainless-steel cannulae (10-mm long; 25 gauge) were placed at an acute angle (19º from vertical) to avoid damage to the medial wall of the cortex, and were anchored in place with dental acrylic (New Truliner, Skokie, IL) and skull screws (Plastics One, Roanoke, VA). Surgeries were conducted with the toothbar set to 4.0 mm below interaural zero. Wire stylets (10.1 mm long, 0.008 in. diameter) were placed in the cannulae to prevent blockage. Animals were given intramuscular injections of penicillin (0.3 mL of a 300,000 U/mL suspension; Phoenix Pharmaceuticals, St. Joseph, MO) and buprenorphine (0.35 mL of a 0.03 mg/mL solution; Hospira, Lake Forest, IL), placed in a warm recovery cage, returned to their home cages upon awakening, and given a recovery period of no less than 4 days (with daily handling and health checks) before resumption of behavioral testing.

Operant Chambers: Training and behavioral-testing sessions were conducted in standard operant chambers made of sheet aluminum and Plexiglas, and enclosed within ventilated chests. Ventilation fans in the chambers provided masking noise continuously throughout each session. One wall of the chamber contained two retractable levers spaced 6 cm apart. Spaced equally between the levers was a pellet receptacle into which 45-mg sucrose pellets (BioServ; Frenchtown, NJ) could be delivered from an automatic pellet dispenser. Above the receptacle was a row of three stimulus lights (red, yellow, green) and a 28-V house light. Experiments were controlled, and behavioral events recorded, on a PC-based computer running MedPC IV for Windows (Med Associates, St. Alban, VT).

Microinfusion Procedures: Rats were held gently and stylets removed from the guide cannulae. Stainless steel injectors (fashioned from 33-gauge tubing) were lowered into the brain bilaterally to extend 2.5 mm past the tips of the guide cannulae. Injectors were attached with polyethylene tubing (PE-10; Becton Dickinson, Sparks, MO) to 10 μL-capacity glass Hamilton syringes, which were mounted on a Harvard Apparatus (Cambridge, MA) microdrive pump. The infusion rate was 0.32 μL/min, and the total infusate volume was 0.5 μL for all experiments. Injectors were left in place for 1 min after the infusion to allow for diffusion of the injectate, whereupon injectors were removed and wire stylets replaced.