



Recent References (2024-Present) on the Intracerebroventricular Administration of Agents
Using ALZET® Osmotic Pumps

Q12462: M. Yu, *et al.* Suppression of hypothalamic oestrogenic signal sustains hyperprolactinemia and metabolic adaptation in lactating mice. *Nature Metabolism* 2025;7(4):759-777

Agents: Estradiol **Vehicle:** DMSO; CSF, artificial; **Route:** CSF/CNS (ventricle); **Species:** Mice; **Strain:** WT; **Pump:** 1004; **Duration:** 28 days;

ALZET Comments: Dose (0.1 µg/d); 10% DMSO in aCSF used; control animals received mp w/ vehicle; animal info (female 10 weeks old); pumps replaced on G16 with new pump filled with E2 or vehicle; ALZET brain infusion kit 3 used; replacement therapy; therapeutic indication (Estradiol used to investigate prolactin regulation and metabolic adaptation in postpartum mice);

Q12621: M. Yao, *et al.* LncRNA Tug1 Regulates Post-Stroke Microglial Pyroptosis via PINK1/Parkin-Mediated Mitophagy. *Inflammation* 2025;48(4):2677-2691

Agents: Mdivi-1 **Vehicle:** Not Stated; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1003D; **Duration:** Not Stated;

ALZET Comments: Dose (1.2 mg/kg/day); animal info (male 8–10 weeks); brain coordinates (1 mm posterior to the bregma, 1 mm right lateral to the midline, 0.6 mm ventral to the dura); ischemia (stroke);

Q12548: S. Y. Tsai, *et al.* Anti-Nogo-A antibody treatment six months post-stroke results in neuroplasticity and improved functional outcome. *Experimental Neurobiology* 2025;391(115306

Agents: Anti-Nogo-A **Vehicle:** Not Stated; **Route:** CSF/CNS (ventricle); **Species:** Rats; **Strain:** Long Evans black hooded; **Pump:** 2ML2; **Duration:** 2 weeks;

ALZET Comments: animal info (male mean weight of 300 g); ischemia (stroke);

Q12586: T. Scherer, *et al.* A direct effect of the hematocrit on blood glucose; Evidence from hypoxia- and erythropoietin-treated mice. *Science Advances* 2025;

Agents: Erythropoietin, recombinant human **Vehicle:** CSF, artificial; **Route:** CSF/CNS (ventricle); **Species:** Mice; **Strain:** C57BL/6Jrj; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (5 U/kg/day); controls received mp w/ vehicle; animal info (male 8-10 weeks old);

Q12539: E. Rodriguez-Vazquez, *et al.* Central lipid sensing pathways contribute to the control of puberty and its alterations in conditions of obesity. *American Journal of Physiology Endocrinology and Metabolism* 2025;328(5):E675-E694

Agents: TGR5 agonist **Vehicle:** DMSO **Route:** SC; ventricle **Species:** Rats **Strain:** Wistar **Pump:** 2001 **Duration:** 7, 10d

ALZET Comments: Dose (5 µg/day); 60% DMSO vehicle used; controls received mp w/ vehicle; animal info (Female); catheter; ALZET brain infusion kit 3 used; brain coordinates (2 mm beneath surface of skull, 1 mm posterior, 1.2 mm lateral to Bregma);

Q12512: M. Prevost, *et al.* The Resistin/TLR4/miR-155-5p axis: a novel signaling pathway in the onset of hypothalamic neuroinflammation. *Journal of Neuroinflammation* 2025;22(1):198

Agents: Resistin **Vehicle:** Saline; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 1003D; **Duration:** 3 days;

ALZET Comments: Dose (2 µg/24µL/day); controls received mp w/ vehicle; animal info (Adult male); brain coordinates (0.58 mm anterior to bregma, 1 mm lateral, and 2 mm dorso-ventral); behavioral testing (glucose/insulin tolerance and metabolic readouts);

Q12474: M. Modder, *et al.* Oppositely biased glucagon-like peptide-1 receptor agonism does not differentially affect lipid metabolism in APOE*3-Leiden CETP mice. *Diabetes Obesity and Metabolism* 2025;27(6):3477-3489

Agents: acyl-ExD3; acyl-ExF1 **Vehicle:** 1004; **Route:** CSF/CNS (left ventricle); **Species:** Mice; **Strain:** ApoE*3-Leiden.CETP; **Pump:** 1004; **Duration:** 18 days;

ALZET Comments: Dose (0.75 nmol/day); controls received mp w/ vehicle; animal info (14–18-week-old female); GLP-1 receptor agonist; peptides; ALZET brain infusion kit 3 used; brain coordinates (-0.45 mm anteroposterior, -1.00 mm lateral and 2.2 mm dorsoventral from bregma); diabetes; obesity;



Q12380: I. Maric, *et al.* Amygdala aromatase controls food intake, reward, and thermoregulation. *Molecular Metabolism* 2025;99(102202)

Agents: Letrozole **Vehicle:** Not Stated; **Route:** CSF/CNS (lateral ventricle); **Species:** Rats; **Strain:** Sprague-Dawley; **Pump:** Not Stated; **Duration:** Not Stated;

ALZET Comments: Dose (10 µg/day); controls received mp w/ vehicle; animal info (Seven to eight-week-old male and female); functionality of mp verified by residual volume; aromatase inhibitor (CYP19A1); ALZET brain infusion kit II used; brain coordinates (0.6 mm posterior to bregma, 1.4 mm lateral from midline, 2.3 mm ventral from skull); cannula placement verified via postmortem India Ink injection; dental cement used; behavioral testing (feeding assays; operant conditioning with progressive ratio for food reward); obesity; "To specifically explore the role of brain estrogen synthesis, an osmotic pump was surgically implanted to continuously infuse the aromatase inhibitor Letrozole into the lateral ventricle.." p.3;

Q12613: Y. Liu, *et al.* Dietary cholesterol impairs cognition via gut microbiota-derived deoxycholic acid in obese mice. *Gut Microbes* 2025;17(1):2537753

Agents: Deoxycholic acid; GSK2330672; Z-DEVD-FMK **Vehicle:** DMSO; CSF, artificial; **Route:** CSF/CNS (hippocampus); (ventricle); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2006; **Duration:** 3; 4 weeks;

ALZET Comments: Dose (DCA: 0.0199 nM/day; GSK 0.04 µg/day; ZDF: 348 nM/day); controls received mp w/ vehicle; animal info (Eight-week-old male); functionality of mp verified; ZDF: caspase-3 inhibitor; GSK2330672: ASBT inhibitor; brain coordinates (AP: -2 mm; ML: ±1.5 mm; DV: -1.5 mm); behavioral testing (Y maze working memory, NOR recognition memory); obesity;

Q12570: X. Liu, *et al.* Lactate alleviates trigeminal neuralgia symptoms in mice by suppressing neuroinflammation. *Journal of International Medical Research* 2025;53(5):3000605251341802

Agents: Sodium L-lactate **Vehicle:** CSF, artificial; **Route:** CSF/CNS (ventricle); **Species:** Mice; **Strain:** Ldh cKO; **Pump:** 2002; **Duration:** 2 weeks;

ALZET Comments: Dose (0.5 mol/L); controls received mp w/ vehicle; brain coordinates (AP: 1.8 mm, DV: -5.0 mm); behavioral testing (von Frey tests);

Q12321: K. L. Liu, *et al.* Blockade of PVN neuromedin B receptor alleviates inflammation via the RAS/ROS/NF-kappaB pathway in spontaneously hypertensive rats. *Brain Research Bulletin* 2025;220(111180)

Agents: BIM-23127 **Vehicle:** CSF, artificial; **Route:** CSF/CNS (paraventricular nucleus); **Species:** Rats; **Strain:** WKY; SHR; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (1 nmol/h); controls received mp w/ vehicle; animal info (250-270 g, sodium pentobarbital anesthesia); blood pressure measured via tail cuff; Measurements Fig.1C (pg.3); NMBR antagonist; brain coordinates (7.9 mm below the dura, 0.4 mm lateral from the midline, and 1.8 mm posterior to the bregma); cannula placement verified via pontamine sky blue injection; cardiovascular; (hypertension)

Q12267: H. Li, *et al.* An alternative neural basis underlying leptin resistance. *Cell Reports* 2025;44(7):115863

Agents: Leptin **Vehicle:** Saline; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** ob/ob; **Pump:** Not Stated; **Duration:** 13 days;

ALZET Comments: Dose (50 ng/h); animal info (8–10 weeks old); obesity;

Q12443: J. E. Kim, *et al.* PHLPP1 regulates region-specific astroglial mitochondrial fission in response to oxidative stress in the male rat hippocampus. *Scientific Reports* 2025;15(1):26077

Agents: SC79; 3CAI; RNA, small interfering, control; RNA, small interfering, PHLPP1 **Vehicle:** Not Stated; **Route:** CSF/CNS (right lateral ventricle); **Species:** Rats; **Strain:** Sprague-Dawley; **Pump:** 1007D; **Duration:** 7 days;

ALZET Comments: Dose: (SC79 25 µM, 3CAI 25 µM); controls received mp w/ vehicle; animal info (Adult male, 7 weeks old, isoflurane anesthesia); SC79 is AKT activator; 3CAI is AKT inhibitor; ALZET brain infusion kit 1 used; brain coordinates (1.0 mm posterior; 1.5 mm lateral; 3.5 mm depth); gene therapy;



Q12442: S. Kemppainen, *et al.* Intracerebroventricular phospho-tau immunotherapy alleviates cortical phospho-tau burden and motor phenotype in a neuron-specific P301S tauopathy mouse. *Experimental Neurobiology* 2025;391(115315

Agents: B6 monoclonal antibody; IgG control **Vehicle:** Not Stated; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** hTau-TGO, C57Bl/6J x CBA/ca background); **Pump:** 1004; **Duration:** 1; 2 months;

ALZET Comments: Dose (2.5 mg/ml); animal info (14 weeks, isoflurane anesthesia); post op. care (carprofen at 5 mg/kg); brain coordinates (AP - 0.5, ML - 1.0, DV -1.9); neurodegenerative; "...intracerebroventricular delivery via osmotic minipump demonstrated significant improvement in motor function during the early stages of pathology. Importantly, both systemic and i.c.v. administration were well-tolerated, with no observed adverse effects on animal well-being or evidence of brain oedema on MRI." pg. 15;

Q12433: S. C. A. Goncalves, *et al.* Oral or intranasal angiotensin-(1-7) improves anxiety and depression-like behaviors in mice subjected to allergic pulmonary inflammation. *Behavioural Brain Research* 2025;494(115744

Agents: Angiotensin (1-7) **Vehicle:** Saline; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** Balb/c; **Pump:** 1007D; **Duration:** 11 days;

ALZET Comments: Dose (50 ng/h); controls received mp w/ vehicle; animal info (male 8–10 w, ketamine/xylazine anesthesia); post op. care (tramadol (12.5 mg/kg s.c.); peptides; brain coordinates (0.5 mm posterior, 1.0 mm lateral, 2.0 mm deep); dental cement used; behavioral testing (elevated plus maze, open field, tail suspension test (anxiety/depression-like behaviors);

Q12229: J. C. Cano, *et al.* Newly generated striatal neurons rescue motor circuitry in a Huntington's disease mouse model. *Cell Reports* 2025;44(4):115440

Agents: Brain-derived neurotrophic factor; Noggin protein, delta B2 **Vehicle:** HBSS; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** R6/2; **Pump:** 1002; **Duration:** 2 weeks;

ALZET Comments: Dose (400 ng/mL BDNF; 5 µg/mL noggin); animal info (male, female); brain coordinates (AP 0.5 mm, ML 0.7 mm, DV -2.5 mm); behavioral testing (motor circuitry functionality tested); "In the present study, we induced striatal neuronal addition in both WT and R6/2 Nestin reporter mice at 4 weeks of age, by the sustained intraventricular infusion of BDNF and Noggin proteins via an implanted osmotic minipump for 2 weeks." p. 3

Q12612: C. Astudillo-Guerrero, *et al.* Hypothalamic gliosis as a potential mediator of improved glucose tolerance induced by time-restricted feeding in obese mice. *American Journal of Physiology- Cell Physiology* 2025;329(3):C834-C847

Agents: Butyrate, B-hydroxy **Vehicle:** PBS; **Route:** SC; CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 1004; **Duration:** 28 days;

ALZET Comments: Dose (18 ug/h SC, 45 ug/ul); controls received mp w/ vehicle; animal info (8-wk-old male); brain coordinates (0.7 mm posterior to bregma, 1.3 mm lateral, and 2.1 mm below the skull surface); "To address the possibility that BHB is too rapidly cleared from the bloodstream to elicit durable metabolic effects, we next tested a continuous BHB administration paradigm using subcutaneous (sc) osmotic minipumps with 4-wk infusion periods." p. 8;

Q12421: D. Arizanovska, *et al.* Cognitive loss after brain trauma results from sex-specific activation of synaptic pruning processes. *Brain* 2025;

Agents: Ro 25-6981 maleate; PSVue-480 **Vehicle:** Saline; **Route:** CSF/CNS (lateral ventricle); (contralateral ventricle); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** Not Stated; **Duration:** 3 days;

ALZET Comments: Dose (1 nM, 10nM, 100nM Ro); controls received mp w/ vehicle; animal info (male, 2-4 months); behavioral testing (contextual and cued fear conditioning, memory tasks); neurodegenerative; immunology;

Q12207: T. Aoki, *et al.* Sodium appetite is enhanced in 5/6 nephrectomized rat by high-sodium diet via increased levels of angiotensin II in the subfornical organ. *Hypertension Research* 2025;

Agents: ZD7155 **Vehicle:** Saline; **Route:** CSF/CNS (intracerebroventricular); **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 2ML4; **Duration:** 4 weeks;

ALZET Comments: Dose (0.1 mg/kg/day); controls received mp w/ vehicle; animal info (6 week old male, 160-180 g); blood pressure measured via noninvasive tail-cuff method; ZD 715 is an AT1 receptor antagonist; ALZET brain infusion kit 2 used; brain coordinates (0.8 mm caudal, 1.6 mm lateral, 4.3 mm ventral from bregma); behavioral testing (sodium appetite test); cardiovascular; nephrology; chronic kidney disease model; "The continuous ICV administration of ZD 7155 (a strong AT1R antagonist) using an ALZET osmotic pump significantly reduced the number of AGT- and AngII-positive cells in the SFO, indicating the attenuation of increased levels of AngII in the SFO." p9;



Q12013: L. Zafra-Puerta, *et al.* Effect of intracerebroventricular administration of alglucosidase alfa in two mouse models of Lafora disease: Relevance for clinical practice. *Epilepsy Research* 2024;200(107317)

Agents: Alglucosidase alfa **Vehicle:** Not Stated; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** Epm2a KO; **Pump:** 1004; **Duration:** 14 days; 30 days;

ALZET Comments: Dose (13.2 ug/day for 14 days; 17.1 ug/day for 30 days); animal info (6, 9 old); comparison of injection vs mp; ALZET brain infusion kit 3 used; behavioral testing (episodic memory, anxiety, susceptibility to PTZ); neurodegenerative (Lafora disease, epilepsy);

Q11989: U. Yilmaz, *et al.* Intracerebroventricular BDNF infusion may reduce cerebral ischemia/reperfusion injury by promoting autophagy and suppressing apoptosis. *Journal of Cellular and Molecular Medicine* 2024;28(8):e18246

Agents: Brain-derived neurotrophic factor **Vehicle:** CSF, artificial; **Route:** CSF/CNS (right lateral ventricle); **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Dose (0.06 ug/hr); controls received mp w/ vehicle; animal info (male; 220-280 g); ALZET brain infusion kit used; brain coordinates (1.6 mm lateral, 0.8 mm posterior and 4 mm vertical from bregma); ischemia (cerebral); behavioral testing (balance; coordination; sensorimotor dysfunction; neurological); "In these three studies, ICV BDNF was administered with osmotic minipumps after CI. All three studies reported that ICV BDNF administration with osmotic minipumps reduced the post-CI infarct area and exhibited neuroprotective properties." pg. 10;

Q11800: L. Yang, *et al.* Gestational diabetes causes hyperactivity of the sympathetic nervous system and hypertension in adult mice offspring. *Clinical and Experimental Hypertension* 2024;46(1):2402260

Agents: Tempol **Vehicle:** CSF, artificial; **Route:** CSF/CNS (paraventricular nucleus); **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2006; **Duration:** 4 weeks;

ALZET Comments: Dose (1 mmol/L); animal info (16 weeks, mice of control mother offspring & diabetic mother offspring); bilateral cannula used; cardiovascular; hypertension; diabetes; "To confirm the role of oxidative stress in gestational diabetes-induced hypertension in offspring, tempol, as an antioxidant, was infused into the bilateral PVN of mice offspring." p5;

Q11982: L. Yang, *et al.* Exploring the role of ghrelin and des-acyl ghrelin in chemotherapy-induced nausea and vomiting. *Neuropharmacology* 2024;251(109919)

Agents: Ghrelin ; Ghrelin, des-acyl **Vehicle:** Not Stated; **Route:** CSF/CNS (lateral ventricle); **Species:** Shrew; **Strain:** S. murinus; **Pump:** 1007D; **Duration:** 72 hours;

ALZET Comments: Dose (0.2, 1, 5 ug/day); dose-response; animal info (male; 50-90 g; isoflurane anesthesia); brain coordinates (8.2 mm anterior to lambda, 0.9 mm lateral to midline);

Q12577: Y. Xiao, *et al.* Inflammatory mediator contributes to leptin resistance and obesity in craniopharyngioma. *Federations of American Societies for Experimental Biology* 2024;38(23):e70242

Agents: Cyst fluid; CXCL1 **Vehicle:** Saline, sterile; **Route:** CSF/CNS (left ventricle); **Species:** Rats; **Strain:** Sprague-Dawley; **Pump:** 2006; **Duration:** Not Stated;

ALZET Comments: Dose (10 µg/mL); controls received mp w/ vehicle; animal info (Young male, 6 weeks of age, 160 to 180 g); vinyl catheter; ALZET brain infusion kit 2 used; brain coordinates (-0.8 mm anteroposterior; -1.3 mm lateral; -4.5 mm vertical from dura); obesity; "Therefore, we implant the osmotic minipump allowing the substances to enter the lateral ventricle slowly, to reduce the hypothalamic damage caused by syringe insertion or acute inflammation caused by a high dose of CF. Avoiding hypothalamic damage is critical for confirming the independent obesogenic role of CF and CXCL1 in CP. Thus, we implanted an osmotic minipump allowing CF into the lateral ventricle slowly and chose the lateral ventricle rather than the hypothalamus as the insertion site." pg. 3; "

Q12560: K. L. H. Wu, *et al.* Butyrate reduction and HDAC4 increase underlie maternal high fructose-induced metabolic dysfunction in hippocampal astrocytes in female rats. *Journal of Nutritional Biochemistry* 2024;126(109571)

Agents: Mc1568 **Vehicle:** Not Stated; **Route:** CSF/CNS (ventricle); **Species:** Rats; **Strain:** Sprague-Dawley; **Pump:** 1004; **Duration:** 4 weeks;

ALZET Comments: Dose (5 µM); animal info (Female, 2 month old); enzyme inhibitor (histone deacetylase 4);



Q11970: M. N. Wojtas, *et al.* Interplay between hippocampal TACR3 and systemic testosterone in regulating anxiety-associated synaptic plasticity. *Molecular Psychiatry* 2024;29(3):686-703

Agents: Osanetan **Vehicle:** Saline; **Route:** CSF/CNS (intracerebroventricular); **Species:** Rat; **Strain:** Wistar; **Pump:** 2004; **Duration:** Not Stated;

ALZET Comments: Dose: (100 nM) 0.9% NaCl used; controls received mp w/ vehicle; animal info (male 3 months, isoflurane anesthesia); post op. care (buprenorphine 0.65 mg/kg)ALZET brain infusion kit II used; brain coordinates (AP, -0.8 mm; ML, +1.6 mm; and DV, -4.0 mm.); behavioral testing (elevated plus-maze);

Q11928: K. Tanbek, *et al.* Effects of Glucagon as Neurohormone on the Central Nervous System and Glucose Homeostasis. *European Review for Medical and Pharmacological Sciences* 2024;

Agents: CSF, artificial **Vehicle:** Not Stated; **Route:** CSF/CNS (third ventricle); **Species:** Rat; **Strain:** Wistar albino; **Pump:** 2ML1; **Duration:** 7 days;

ALZET Comments: Dose (240 ul/day); animal info (male; 8 weeks old; 300-350 g);

Q11924: M. Sun, *et al.* Treatment with the vascular endothelial growth factor-A antibody, bevacizumab, has sex-specific effects in a rat model of mild traumatic brain injury. *Journal of Cerebral Blood Flow & Metabolism* 2024;44(4):542-555

Agents: Bevacizumab **Vehicle:** CSF, artificial; BSA; **Route:** CSF/CNS (lateral ventricle); **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 2002; **Duration:** 11 days;

ALZET Comments: Dose: (10 mg/kg) BSA (1 mg/mL) used; controls received mp w/ vehicle; animal info (10 weeks old male, female); post op. care (buprenorphine, 0.05 mg/kg); ALZET brain infusion kit 2 used; brain coordinates (bregma: posterior 0.2 mm, lateral 1.6 mm and at 4.5 mm depth from skull surface); dental cement used; behavioral testing (beam; water maze; open field test); neurodegenerative (traumatic brain injury);

Q11900: M. M. Santisteban, *et al.* Meningeal interleukin-17-producing T cells mediate cognitive impairment in a mouse model of salt-sensitive hypertension. *Nature Neuroscience* 2024;27(1):63-77

Agents: UC7-13D5 antibody **Vehicle:** Not Stated; **Route:** CSF/CNS (cerebral ventricle); **Species:** Mice; **Strain:** Not Stated; **Pump:** 1004; **Duration:** Not Stated;

ALZET Comments: Dose: (0.1 µg/h); controls received mp w/ vehicle; animal info (Seven- to ten-week-old); blood pressure measured via tail cuff plethysmography; See (Extended Data Fig. 2); UC7-13D5 is an anti-TCR gamma/delta antibody; ALZET brain infusion kit 3 used; brain coordinates (0.5 mm posterior to bregma, 1.0 mm lateral from midline, 2.3 mm below the brain surface); behavioral testing (novel object recognition test; barnes maze test); cardiovascular (hypertension);

Q11899: A. Sanson, *et al.* CRF Binding Protein Activity in the Hypothalamic Paraventricular nucleus is Essential for Stress Adaptations and Normal Behaviour in Lactating Rats. *Neurobiology of Stress* 2024;30(100631

Agents: Corticotropin releasing factor (6-33) **Vehicle:** Ringer's solution; **Route:** CSF/CNS (left, right paraventricular nucleus); **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 1007D; **Duration:** 7 days;

ALZET Comments: Dose: (0.05 µg/ul); animal info (naive virgin female 200g-220g); brain coordinates (-1.4mm posterior, +1.8mm/-2.1mm lateral, +8.3mm ventral to bregma at +/-10 deg angle); bilateral cannula used; behavioral testing (Maternal care; pup retrieval test; anxiety-related behaviour; maternal defence test; forced swim test);

Q12533: B. Rubio, *et al.* Central Actions of Leptin Induce an Atrophic Pattern and Improves Heart Function in Lean Normoleptinemic Rats via PPARbeta/delta Activation. *Biomolecules* 2024;14(8):

Agents: leptin **Vehicle:** Saline; **Route:** CSF/CNS (lateral ventricle); **Species:** Rats; **Strain:** Wistar **Pump:** Not Stated **Duration:** 7d **ALZET Comments:** Dose (0.2 µg/d); controls received mp w/ vehicle; animal info (Male; 3 months old, isoflurane anesthesia);

Q11882: P. A. Pereira, *et al.* Effects of Aging and Nerve Growth Factor on Neuropeptide Expression and Cholinergic Innervation of the Rat Basolateral Amygdala. *Biology* 2024;13(3):

Agents: Neurotrophine nerve growth factor; methylene blue **Vehicle:** CSF, artificial; BSA; **Route:** CSF/CNS (right lateral ventricle); **Species:** Rat; **Strain:** Wistar; **Pump:** 2002; **Duration:** 12 days;

ALZET Comments: Dose (150 µg/150 ul); 0.1% bovine serum albumin; controls received mp w/ vehicle; animal info (male 6 months old, 24 months, promethazine/xylazine anesthesia); post op. care (saline injections to prevent dehydration/weight loss); pulsed delivery; Lynch coil; ALZET brain infusion kit used; brain coordinates: 1.7 mm lateral to the midline, 1.1 mm posterior to the bregma, 4.0 mm below the skull surface; aging



Q12491: J. A. Parmasad, *et al.* Genetic and pharmacological reduction of CDK14 mitigates synucleinopathy. *Cell Death and Disease* 2024;15(4):246

Agents: FMF-04-159-216 **Vehicle:** DMSO; Tween 80; Water, double distilled; **Route:** CSF/CNS (ventricle); **Species:** Mice; **Strain:** Not Stated; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Dose (0.35 mg/kg/day) 8% DMSO; 2% Tween 80, 90% ddH₂O used; controls received mp w/ vehicle; animal info (4-month-old); ALZET brain infusion kit used; brain coordinates (-1.1 mm ML; -0.5 mm AP, -3 mm DV); behavioral testing (Grip strength tests; elevated plus maze test; Y maze test; open field test; rotarod test); neurodegenerative (Parkinson's); therapeutic indication (Parkinson's disease);

Q11877: J. W. Park, *et al.* Hypothalamic astrocyte NAD(+) salvage pathway mediates the coupling of dietary fat overconsumption in a mouse model of obesity. *Nature Communications* 2024;15(1):2102

Agents: 78c **Vehicle:** Saline; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 1004; **Duration:** 4 weeks;

ALZET Comments: Dose (2.8 ug/day); 0.9% saline solution used; animal info (male 8 weeks, Zoletil/Rompun anesthesia); enzyme inhibitor (CD38); cannula placement verified via black ink injection; obesity;

Q11683: C. B. Park, *et al.* Extracellular Cleavage of Microglia-Derived Progranulin Promotes Diet-Induced Obesity. *Obesity Studies* 2024;

Agents: SLPI peptide **Vehicle:** Saline; **Route:** CSF/CNS (third ventricle); **Species:** Mice; **Strain:** Cx3cr1CreER:eYFP; C57BL/6J; **Pump:** Not stated; **Duration:** 28 days;

ALZET Comments: Dose (3 ug/2.6 ul/d); animal info (7-8 weeks); cannula placement verified via injecting black ink; diabetes;

Q11876: D. A. Ozturk Ozturk, *et al.* Central MOTS-c infusion affects reproductive hormones in obese and non-obese rats. *Neuroscience Letters* 2024;826(137722)

Agents: Peptide, mitochondrial-derived **Vehicle:** Not Stated; **Route:** CSF/CNS (right lateral ventricle); **Species:** Rat; **Strain:** Wistar; Albino; **Pump:** 2ML2; **Duration:** 14 days;

ALZET Comments: Dose (10 uM, 100 uM); controls received mp w/ aCSF; animal info (male 21 days old); peptides; ALZET brain infusion kit 1 used; brain coordinates (1.4 mm lateral; 0.8 mm posterior; 4.8 mm vertical); bilateral cannula used; dental cement used; obesity;

Q12410: A. C. L. Nunes, *et al.* Adenosine A(2A) Receptor Blockade Provides More Effective Benefits at the Onset Rather than after Overt Neurodegeneration in a Rat Model of Parkinson's Disease. *International Journal of Molecular Sciences* 2024;25(9):

Agents: 1-methyl-4-phenylpyridinium **Vehicle:** Saline; **Route:** CSF/CNS (lateral ventricle); **Species:** Rats; **Strain:** Wistar; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose (0.15 mg/kg/day); controls received mp w/ vehicle; animal info (male and female; 3 months old; 221.4±4.3 g, ketamine/xylazine anesthesia); ALZET brain infusion kit 2 used; brain coordinates (relative to bregma: 1.5 mm posterior, 1.0 mm lateral, and 3.7 mm below the horizontal plane of bregma); behavioral testing (Balance; Motor coordination); neurodegenerative (Parkinson's);

R0472: D. Navarro-Tumar, *et al.* Novel Applications in Controlled Drug Delivery Systems by Integrating Osmotic Pumps and Magnetic Nanoparticles. *Sensors (Basel)* 2024;24(21):

Agents: DNA, tc; fluvastatin; meloxicam; angiotensin II; perilymph, artificial; isoform FS-288; neurotrophin-3 **Vehicle:** Not Stated; **Route:** IV; SC; CSF/CNS (ventricle); Ear; **Species:** Mice; bird (pigeon); guinea pig; rat; **Strain:** C57BL/6; Mdx52; Mst1-/-; Sprague Dawley; Apoe-/-; **Pump:** 1002; 1004; 2001; 2002; 2004; 2006; 2ML4; **Duration:** Not Stated;

ALZET Comments: see Table 1 for list of studies; "This method of drug administration presents several advantages for research purposes over conventional delivery systems including (i) the maintenance of a constant concentration of the drug to maximize its efficacy and reduce adverse effects, (ii) the elimination of the need for researcher intervention during the experiment, and (iii) the time savings by removing the need for frequent handling and repetitive injection of the animal." p. 5



Q11679: M. M. Naffaa, *et al.* A cholinergic signaling pathway underlying cortical circuit activation of quiescent neural stem cells in the lateral ventricle. *Science Signaling* 2024;

Agents: 4-DAMP; 2-APB; KN 93; SR-3576 **Vehicle:** Not Stated; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** Ce-Cre; **Pump:** 1003D; **Duration:** 12 hours;

ALZET Comments: 4-DAMP is M3 receptor antagonist, 2-APB is IP3R1 antagonist, KN 93 is selective CAMK2D inhibitor, SR-3576 is selective MAPK10 inhibitor; brain coordinates (AP: +0.8, ML: ± 0.65, and DV: 2.1 from the brain surface);

Q12375: A. P. Moresman, *et al.* Therapeutic glycan-specific antibody binding mediates protection during primary amoebic meningoencephalitis. *Infection and Immunity* 2024;

Agents: 2B6, IgG1, antibody isotype control; 2B6-IgG2c **Vehicle:** Saline; **Route:** CSF/CNS (ventricle); **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose (2.5 ug/h); animal info (male and female; 8-10 weeks old); post op. care (buprenorphine); ALZET brain infusion kit 3 used; cyanoacrylate adhesive; immunology; "To further increase antibody-mediated pressure on brain-invading amoebas, we sought to maintain a consistent antibody supply within the brain using osmotic pumps (Alzet) to continuously deliver 2B6 antibody into the brains of infected mice...In any event, therapeutic delivery of 2B6-IgG2c via osmotic pump resulted in further prolonged survival suggesting that antibody-directed effector function can enhance the therapeutic potential of monoclonal antibodies against *N. fowleri* during PAM" pg. 10,11;

R0463: L. Moreno-Jimenez, *et al.* Murine experimental models of amyotrophic lateral sclerosis: an update. *Neurologia (Engl Ed)* 2024;39(3):282-291

Agents: CSF, cytotoxic **Vehicle:** Not Stated; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** Not Stated;

ALZET Comments: comparison of local neuromuscular injections vs mp; ALZET brain infusion kit used; neurodegenerative (murine models of ALS); "The results of this study show similar cytohistochemical changes in the brain and spinal cord to those found in patients with ALS." pg. 7;

Q12358: M. Mey, *et al.* Therapeutic benefits of central LH receptor agonism in the APP/PS1 AD model involve trophic and immune regulation and are reproductive status dependent. *BBA - Molecular Basis of Disease* 2024;1870(5):167165

Agents: Gonadotropin; human chorionic **Vehicle:** Cerebrospinal fluid, artificial; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** C57/BJ6; **Pump:** 1004; **Duration:** 8 weeks;

ALZET Comments: Dose (30 mIU/day); controls received mp w/ vehicle; animal info (female; 8 months old); pumps replaced after 4 weeks; peptides; ALZET brain infusion kit 3 used; brain coordinates (from bregma; anterior posterior -0.05 mm, medial/lateral -0.11, and dorsal ventral -0.25 mm); cannula placement verified via injecting fast green through the tubing at sacrifice; behavioral testing (Maze; Open field; Light/dark box procedure); neurodegenerative (Alzheimer's);

Q12315: L. Y.-F. MD., *et al.* The Impact of Hydrogen Sulfide in the Paraventricular Nucleus on the MAPK Pathway in High Salt-Induced Hypertension. *Journal of Cardiovascular Pharmacology* 2024;

Agents: Hydroxylamine hydrochloride **Vehicle:** CSF, artificial; **Route:** CSF/CNS (bilateral periventricular nucleus); **Species:** Rats; **Strain:** Dahl salt-sensitive; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (9 nmol/h); controls received mp w/ vehicle; animal info (male >250 g, ketamine/xylazine anesthesia); blood pressure measured via tail cuff; Measurements (pg. 471); cystathionine beta-synthase inhibitor; brain coordinates (1.8 mm posterior to the bregma, 0.4 mm from the midline, and 7.9 mm ventral to the zero level); cardiovascular; hypertension

Q12350: L. Mazuecos, *et al.* Central leptin signaling deficiency induced by leptin receptor antagonist leads to hypothalamic proteomic remodeling. *Life Sciences* 2024;346(122649

Agents: SLA **Vehicle:** PBS; **Route:** CSF/CNS (lateral ventricle); **Species:** Rats; **Strain:** Wistar; **Pump:** Not Stated; **Duration:** 21 d **ALZET Comments:** Dose (0.2 ug/day); controls received mp w/ vehicle; animal info (male; 3 months old); "In this work, we blocked the central actions of leptin in lean male adult Wistar rat by chronically administering intracerebroventricularly the superactive leptin receptor antagonist (SLA) (D23L/ L39A/D40A/F41A) and investigated its impact on the hypothalamic proteome..." pg. 1;



Q11678: Q. Lyu, *et al.* A brain-to-gut signal controls intestinal fat absorption. *Nature Portfolio* 2024;634(8035):936-943

Agents: Puerarin **Vehicle:** PBS; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** C57BL/6J; Phox2b-cre; Chat-cre; Rosa26-tdTomato; **Pump:** 1004; **Duration:** 20 days;

ALZET Comments: Dose (3.73 ng/ul); animal info (8 week old); ALZET brain infusion kit 3 used; brain coordinates (2 mm depth, AP -0.7 mm, lateral 1 mm); glue used to cement to skull; "To avoid potential confounding effects of puerarin on peripheral organs, pair-fed HFD mice were given an intracerebroventricular (i.c.v) infusion of puerarin into the lateral ventricle (Fig. 2m)." pg. 3;

Q12326: J. Liu, *et al.* Exploring the neuroprotective role of artesunate in mouse models of anti-NMDAR encephalitis: insights from molecular mechanisms and transmission electron microscopy. *Cell Communication and Signaling* 2024;22(1):269

Agents: CSF, antibody; anti-NMDAR **Vehicle:** PBS; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: controls received mp w/ vehicle; animal info (female; 8-10 weeks old, isoflurane anesthesia); brain coordinates (AP: -0.22 mm, ML:±0.95 mm, DV: -2.3 mm); behavioral testing (social; maze; open field);

Q12323: C. F. Liu, *et al.* Lactocaseibacillus-deglycosylated isoflavones prevent Abeta 40-induced Alzheimer's disease in a rat model. *AMB Express* 2024;14(1):90

Agents: Amyloid-beta 40 **Vehicle:** Acetonitrile; Trifluoroacetic acid; **Route:** CSF/CNS (intracerebroventricular); **Species:** Rats; **Strain:** Sprague-Dawley; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Dose (24.299 ug/180 ul); 35% acetonitrile, 0.1% trifluoroacetic acid used; controls received mp w/ vehicle; animal info (male; 6-8 weeks old; 300 g, sodium pentobarbital anesthesia); peptides; brain coordinates (left skull relative to bregma 0.8 mm posterior, 1.4 mm lateral); dental cement used; behavioral testing (maze; memory; learning); neurodegenerative (Alzheimer's disease);

Q12319: Y. T. Lin, *et al.* Targeting acetylated high mobility group box 1 protein (HMGB1) and toll-like receptor (TLR4) interaction to alleviate hypertension and neuroinflammation in fructose-fed rats. *British Journal of Pharmacology* 2024;

Agents: CLI-095 **Vehicle:** DMSO; PEG 300; Tween-80; CSF, artificial; **Route:** CSF/CNS (lateral ventricle); **Species:** Rats; **Strain:** Wistar-Kyoto; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: 5% DMSO, 30% PEG-300, 2% Tween-80; 63% aCSF used; controls received mp w/ vehicle; animal info (6-8 weeks old, atropine/zoletil/xylazine anesthesia); post op. care (5 mg/k/d ketotifen); blood pressure measured via tail cuff; Measurements (pg. 7) Fig. B; CLI-095 is a TLR4 inhibitor; ALZET brain infusion kit 2 used; brain coordinates (5 mm to the right and 0.8 mm down); cardiovascular; hypertension;

Q12302: Y. Li, *et al.* Tumor cells impair immunological synapse formation via central nervous system-enriched metabolite. *Cancer Cell* 2024;42(6):985-1002 e18

Agents: Aspartate, N-acetyl **Vehicle:** CSF, artificial, sterile; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** C57BL/6; BALB/c; **Pump:** 1004; **Duration:** Not Stated;

ALZET Comments: Dose (20 ug/ul); animal info (female; 6 weeks old); brain coordinates (skull 0.2 mm lateral and 0.1 mm posterior to the bregma); dental cement used; immunology;

Q12299: S. Leon, *et al.* Single cell tracing of Pomc neurons reveals recruitment of 'Ghost' subtypes with atypical identity in a mouse model of obesity. *Nature Communications* 2024;15(1):3443

Agents: Uridine, 5-Bromo-2-deoxy **Vehicle:** Saline; DMSO; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** PomcCreERT2; tdTomato; Pomc-eGFP; **Pump:** 1004; **Duration:** 3 weeks; 3 months;

ALZET Comments: 22.5% DMSO used; controls received mp w/ vehicle; animal info (male; 16-21 weeks old, isoflurane anesthesia); pumps replaced twice for long term delivery; long-term study; ALZET brain infusion kit 2 used; brain coordinates (AP -0.3 mm; ML +/- 1 mm; DV -2.5 mm);



Q12290: C. Leal, *et al.* Effects of the therapeutic correction of U1 snRNP complex on Alzheimer's disease. *Scientific Reports* 2024;14(1):30085

Agents: APT20TTMG **Vehicle:** aCSF; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** SAMP8/8TaHsd; **Pump:** 2006; **Duration:** 42 days;

ALZET Comments: Dose (83.3 ug/mL/0.3 ug/d or 833.3 ug/mL/3 ug/d); animal info (female 7–8 weeks, isoflurane anesthesia); post op. care: Carprofen, 5 mg/kg via s.c.; brain coordinates (A/P -0.5 mm, M/L 1.0 mm, and D/V 1.7 mm); cyanoacrylate adhesive; behavioral testing (Morris water maze test; CFC test, freezing behavior); neurodegenerative (Alzheimer's); good methods (p. 13);

Q12288: D. Lau, *et al.* ABHD6 loss-of-function in mesoaccumbens postsynaptic but not presynaptic neurons prevents diet-induced obesity in male mice. *Nature Communications* 2024;15(1):10652

Agents: WWL70 **Vehicle:** DMSO; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** WT C57BL/6NCrl; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Dose (1.86 µg/day); 20% DMSO used; controls received mp w/ vehicle; behavioral testing (Open field test; Home-cage voluntary wheel-running; Elevated plus maze test; Forced swim test; Social interaction test; Operant testing); obesity; therapeutic indication (α/β -hydrolase domain 6); obesity

Q11767: Y. K. Kim, *et al.* Identification of IGF-1 Effects on White Adipose Tissue and Hippocampus in Alzheimer's Disease Mice via Transcriptomic and Cellular Analysis. *International Journal of Molecular Sciences* 2024;25(5):

Agents: siRNA-siPORTNeoFX **Vehicle:** Not Stated; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** APP/PS2; **Pump:** Not Stated; **Duration:** Not Stated;

ALZET Comments: animal info (male; 3 months old); ALZET brain infusion kit used; brain coordinates (ML 1 mm, AP 0.3 mm based on bregma); neurodegenerative (Alzheimer's); gene therapy;

Q12272: J. E. Kim, *et al.* GPx1-ERK1/2-CREB pathway regulates the distinct vulnerability of hippocampal neurons to oxidative stress via modulating mitochondrial dynamics following status epilepticus. *Neuropharmacology* 2024;260(110135

Agents: siRNA control; siRNA GPx1; siRNA CREB; U0126 **Vehicle:** Not Stated; **Route:** CSF/CNS (right lateral ventricle); **Species:** Rats; **Strain:** Sprague-Dawley; **Pump:** 1007D; **Duration:** Not Stated;

ALZET Comments: Dose (20 uM); controls received mp w/ vehicle; animal info (male; 7 weeks old, isoflurane anesthesia); ALZET brain infusion kit 1 used; brain coordinates (1 mm posterior; 1.5 mm lateral; 3.5 mm depth); behavioral testing (Muscle strength; Tail suspension);

Q12269: F. Kawakita, *et al.* Effects of Haptoglobin on Early Brain Injury, Vasospasm, and Lymphatic Drainage After Subarachnoid Hemorrhage in Mice. *Stroke* 2024;55(12):2885-2895

Agents: Haptoglobin **Vehicle:** Not Stated; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2001D; **Duration:** 24 hours;

ALZET Comments: controls received mp w/ saline; animal info (male, 10-12 weeks, 25-30g); blood pressure measured via noninvasive from the tail; brain coordinates (0.2 mm posterior to bregma, 1.0 mm to the right, 2.5 mm depth); neurobehavioral tests;

Q11761: S. Kajiwara, *et al.* Persistent brain exposure to high sodium induces stroke onset by upregulation of cerebral microbleeds and oxidative stress in hypertensive rats. *Hypertension Research* 2024;47(1):78-87

Agents: Sodium **Vehicle:** Not Stated; **Route:** CSF/CNS (right cerebral ventricle); **Species:** Rat; **Strain:** SHR; Wistar Kyoto; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose (6 uL/day); controls received mp w/ vehicle; animal info (11 week-old male, isoflurane anesthesia); post op. care: iodine, meloxicam (1 mg/kg); blood pressure measured via: tail sphygmomanometer; Measurement (pg.83) Fig.2; ALZET brain infusion kit 1 used; brain coordinates (1.0 mm posterior and 2.0 mm lateral from the bregma); behavioral testing (rotarod test; beam walking test); cardiovascular; "To test this hypothesis, we employed hypertensive and normotensive rats, continuously administered multiple doses of sodium intracerebroventricularly, and evaluated stroke onset and the related brain injuries between the rats" pg.2 ;



Q12005: A. B. Isaev, *et al.* Upregulation of cholinergic modulators Lypd6 and Lypd6b associated with autism drives anxiety and cognitive decline. *Cell Death Discovery* 2024;10(1):444

Agents: WS-LYPD6; WS-LYPD6B **Vehicle:** PBS; DMSO; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** C57BL/6NcrJ; **Pump:** 2004; **Duration:** 2 weeks;

ALZET Comments: Dose (5 mg/ml); 30% DMSO used; controls received mp w/ vehicle; animal info (male 16-week-old); stability verified at 37deg prior to study; ALZET brain infusion kit 2 used; behavioral testing (open field test; elevated plus maze test; hypophagia; novel objective recognition; novel odor recognition; rotarod test); immunology;

Q12000: S. J. P. Huwart, *et al.* TLR4-dependent neuroinflammation mediates LPS-driven food-reward alterations during high-fat exposure. *Journal of Neuroinflammation* 2024;21(1):305

Agents: Lipopolysaccharide **Vehicle:** Saline; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** C57BL/6J; TLR4 knockout (KO); **Pump:** 2006; **Duration:** 42 days;

ALZET Comments: Dose (562.2 pg/h); 0.9% NaCl used; animal info (male, isoflurane anesthesia); post op. care: tramadol 5 mg/kg s.c.; ALZET brain infusion kit 1 used; brain coordinates (bregma in mm: L=+0.9; AP=0.2; V=-2.5) dental cement used;

Q11734: C. Y. Ho, *et al.* Microglial activation and toll-like receptor 4-Dependent regulation of angiotensin II type I receptor-mu-opioid receptor 1 heterodimerization and hypertension in fructose-fed rats. *European Journal of Pharmacology* 2024;962(176171)

Agents: CLI-095; glycyrrhizic acid **Vehicle:** DMSO; PEG300; Tween 80; CSF, artificial; **Route:** CSF/CNS (intracerebroventricular); **Species:** Rat; **Strain:** Wistar Kyoto; **Pump:** Not Stated; **Duration:** 14 days;

ALZET Comments: 5% DMSO; 30% PEG-300; 2% Tween-80; 63% aCSF used; controls received mp w/ vehicle; animal info (atropine, zoletil, xylazine anesthesia); blood pressure measured via non-invasive tail-cuff; Measurements (pg.6) Fig.6; brain coordinates (lateral 1.5 mm, caudal 0.8 mm, and ventral 4.0 mm from the bregma); cardiovascular; "It is in our concerns that this study has limitations, namely, the large molecular weight of GA, which hampers its ability to easily permeate the blood-brain barrier (BBB). Consequently, we resorted to using an ICV injection to deliver the drug into the CNS" pg. 8;

Q12115: M. Hernandez, *et al.* The Effects of Cathepsin B Inhibition in the Face of Diffuse Traumatic Brain Injury and Secondary Intracranial Pressure Elevation. *Biomedicines* 2024;12(7):

Agents: CA-074 methyl ester **Vehicle:** DMSO; Saline, sterile; **Route:** CSF/CNS (left lateral ventricle); **Species:** Rat; **Strain:** Sprague Dawley; **Pump:** 2002; **Duration:** 2 weeks;

ALZET Comments: 10% DMSO used; controls received mp w/ vehicle; animal info (male, 320-420g); ALZET brain infusion kit 1 used; brain coordinates (0.8 mm posterior, 1.3 mm lateral, 2.5-3 mm ventral to bregma); cyanoacrylate adhesive; "Overall, the findings from this study show that CA-074Me, when given as a bolus followed by continuous osmotic pump infusion into the left ventricle, successfully inhibits Cath B activity in the left and right lateral neocortex" pg. 20;

Q12048: Q. He, *et al.* Acetate enables metabolic fitness and cognitive performance during sleep disruption. *Cell Metabolism* 2024;36(9):1998-2014 e15

Agents: Sodium acetate **Vehicle:** Cerebrospinal fluid, artificial; **Route:** CSF/CNS (third ventricle); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose (20 mM); animal info (male and female; 7-8 weeks old); brain coordinates (AP -1.8 mm, DV -5 mm); behavioral testing (Morris water maze, novel object recognition);

Q12043: L. K. Hamilton, *et al.* Central inhibition of stearyl-CoA desaturase has minimal effects on the peripheral metabolic symptoms of the 3xTg Alzheimer's disease mouse model. *Scientific Reports* 2024;14(1):7742

Agents: SCD1 inhibitor **Vehicle:** DMSO; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** 3xTg-AD; WT; **Pump:** 1004; **Duration:** 28 days;

ALZET Comments: controls received mp w/ DMSO/aCSF; animal info (9 month old, isoflurane anesthesia); brain coordinates (0.0 mm antero-posterior and 0.9 mm lateral to Bregma); neurodegenerative (Alzheimer's); "The ICV infusion paradigm for SCD1 used here results in remarkable improvements in brain structure and function of 3xTg-AD mice, including a recovery of learning and memory in mid-life" pg. 8;