Recent References on the Administration of Nitric Oxide Synthase Inhibitors
Using ALZET® Osmotic Pumps

1400W
Agents: 1400W dihydrochloride Vehicle: Not Stated; Route: SC; Species: Mice (nude); Pump: 1002; Duration: Not Stated; ALZET Comments: Animal info (female, nu/nu, 6-8 weeks old); cancer (breast); enzyme inhibitor (nitric oxide synthase); immunology;

Agents: 1400W Vehicle: PBS; Route: SC; Species: Mice; Pump: Not Stated; Duration: 2 weeks; ALZET Comments: Controls received mp w/ vehicle; animal info (RT5); cancer (cancer immunotherapy); immunology; iNOS inhibitor

Agents: 1400W; Suramin Vehicle: Saline; Route: Not Stated; Species: Mice; Pump: Not Stated; Duration: Not Stated; ALZET Comments: Controls received mp w/ vehicle; animal info (C57BL/6J, 6 wks old, male); enzyme inhibitor (NO synthase, iNOS)

Agents: 1400W Vehicle: Isoproterenol bitartrate; Route: SC; Species: Mice; Pump: 2002; Duration: 14 days; ALZET Comments: Controls received mp w/ vehicle; enzyme inhibitor (iNOS); animal info (C57BL/6, 3, 20 months old); ischemia (myocardial)

Agents: 1400W Cisplatin Vehicle: Saline; Route: SC; Species: Rat; Pump: 2001; Duration: 3 days; ALZET Comments: Controls received mp w/ vehicle; enzyme inhibitor (iNOS); animal info (male, Wistar, 230-275g.)

Agents: 1400W Vehicle: Saline; Route: SC; Species: Mice; Pump: 2002; Duration: 2 weeks; ALZET Comments: Controls received mp w/ vehicle; cardiovascular; animal info (2-3 months old, CS7BL16)

Agents: 1400W Vehicle: Not Stated; Route: IP; Species: Rat; Pump: Not Stated; Duration: 2,72 hours; ALZET Comments: Controls received mp w/ saline or no treatment; MCAO

Agents: 1400W Vehicle: PBS; Route: SC; Species: Mice; Pump: 2001; Duration: Not Stated; ALZET Comments: Controls received mp w/ vehicle; enzyme inhibitor (iNOS); cancer (lymphoma)

Agents: 1400W Vehicle: Not Stated; Route: IP; Species: Mice (knockout); Pump: Not Stated; Duration: Not Stated; ALZET Comments: Cardiovascular; enzyme inhibitor; 1400W is an inducible nitric oxide synthase (iNOS) inhibitor
**P5028:** A. Koarai, et al. Allergic airway hyperresponsiveness and eosinophil infiltration is reduced by a selective iNOS inhibitor, 1400W, in mice. Pulmonary Pharmacology & Therapeutics 2000;13(267-275)

**Agents:** 1400W  
**Vehicle:** Saline;  
**Route:** SC;  
**Species:** Mice;  
**Pump:** 1003D;  
**Duration:** 26 hours;  

**ALZET Comments:** Controls received mp w/ vehicle; immunology; asthma


**Agents:** AMT; 1400W; Ethylisourea, S-  
**Vehicle:** Not Stated;  
**Route:** Not Stated;  
**Species:** Rat;  
**Duration:** 12 days;  

**ALZET Comments:** Cardiovascular; agents are NOS II inhibitors; AMT is 2-amino-5,6-dihydro-6-methyl-4H-1,3-thiazine; S-ethylisourea is also known as EIT; enzyme inhibitors; nitric oxide synthase inhibitor


**Agents:** 1400W  
**Vehicle:** Water, sterile;  
**Route:** SC;  
**Species:** Mice;  
**Pump:** 2002;  
**Duration:** 6, 12, 13 days;  

**ALZET Comments:** Controls received mp w/ vehicle; functionality of mp verified by measurement of 1400W in plasma and tumor samples; stress/adverse reaction: unexpected symptoms in 2 mice in high dose group (12 mg/kg/h), not clear if compound toxicity or bacterial infection (see pg. 3303); cancer; 1400W is N-(3-(aminomethyl)benzyl)acetamidine, a NO synthase inhibitor

**L-NAME (2011-Present)**


**Agents:** L-NAME; D-NAME  
**Vehicle:** Saline, sterile;  
**Route:** CSF/CNS (fourth ventricle);  
**Species:** Rat;  
**Pump:** 1002;  
**Duration:** 2 weeks;  

**ALZET Comments:** Dose (180 mg/kg/day); Controls received mp w/ vehicle; animal info (Wistar rat); post op. care (penicillin); functionality of mp verified by pump weight; ALZET brain infusion kit 3 used; dependence

**Q10135:** D. Ceiler. Hypertension III: Flow-Induced Vascular Remodeling. International Association for Biomedical Sciences 2020;  

**Agents:** L-NAME  
**Vehicle:** Saline;  
**Route:** SC;  
**Species:** Rat;  
**Pump:** 2002;  
**Duration:** 2 weeks;  

**ALZET Comments:** Dose (25mg/kg/day); Controls received mp w/ vehicle; animal info: 8 week old male Wistar Kyoto; 10 week old male; post op. care: rats were kept warm with a thermostatically- controlled heating pad; Blood pressure measured via a Pressure transducer; Recorded blood pressure (148.4 vs. 119.5 mmHg) see pg 2; cardiovascular; (Hypertension)

**Q7412:** H. E. Chen, et al. Resveratrol prevents combined prenatal N(G)-nitro-L-arginine-methyl ester (L-NAME) treatment plus postnatal high-fat diet induced programmed hypertension in adult rat offspring: interplay between nutrient-sensing signals, oxidative stress and gut microbiota. J Nutr Biochem 2019;70(28-37)

**Agents:** L-NAME  
**Vehicle:** Not Stated;  
**Route:** SC;  
**Species:** Rat;  
**Pump:** Not Stated;  
**Duration:** 6 weeks;  

**ALZET Comments:** Dose (60 mg/kg/day); Controls received mp w/ vehicle; animal info (12-16 weeks old, male);  


**Agents:** L-NAME  
**Vehicle:** Saline;  
**Route:** SC;  
**Species:** Rat (pregnant);  
**Pump:** 2ML1;  
**Duration:** 3 days;  

**ALZET Comments:** Dose (50 mg/day); Controls received mp w/ vehicle; animal info (Pregnant female Sprague-Dawley rats on embryonic day 16);

**Q7151:** D. S. Lee, et al. PDI-mediated S-nitrosylation of DRP1 facilitates DRP1-S616 phosphorylation and mitochondrial fission in CA1 neurons. Cell Death & Disease 2018;9(9):869

**Agents:** RNA, small interfering (protein disulfide isomerase), L-NAME  
**Vehicle:** Saline;  
**Route:** CSF/CNS (right lateral ventricle);  
**Species:** Rats;  
**Pump:** 1007D;  
**Duration:** Not Stated;  

**ALZET Comments:** Dose (15 μg/μl L-NAME); animal info (7-week-old male Sprague-Dawley rats); Nω-nitro-L-arginine methyl ester hydrochloride aka L-name; enzyme inhibitor (protein disulfide isomerase); ALZET brain infusion kit 1 used; Brain coordinates (right lateral ventricle, 1mm posterior; 1.5 mm lateral; 3.5 mm depth from bregma);

**Agents:** RNA, small interfering; L-NAME; PACMA31

**Vehicle:** Saline

**Route:** CSF/CNS (Right lateral ventricle)

**Species:** Rat

**Pump:** 1007D

**Duration:** 1 week

**ALZET Comments:** Controls received mp w/ vehicle; animal info (7 week old male Sprague-Dawley rats); enzyme inhibitor (PACMA31 is a selective PDI inhibitor); ALZET brain infusion kit 1 used; Brain coordinates (1 mm posterior; 1.5 mm lateral; 3.5 mm depth from bregma); Therapeutic indication (seizure);


**Agents:** L-NAME

**Vehicle:** Not Stated

**Route:** Not Stated

**Species:** Mice

**Pump:** 2001

**Duration:** 7 days

**ALZET Comments:** Dose (50 mg/kg/d); animal info (Female C57Bl/6 mice); L-NG-Nitroarginine methyl ester aka L-NAME;


**Agents:** L-NAME, D-NAME

**Vehicle:** PBS

**Route:** SC

**Species:** Mice (nude)

**Pump:** 1003D

**Duration:** 1 day

**ALZET Comments:** Dose: L-NAME (134 mg/kg/day); Controls received mp w/ vehicle; animal info (4 to 6-week-old female athymic nude mice, wild-type C57BL/6 and eNOS null mice); N(G)-nitro-L-arginine methyl ester aka L-NAME; N(G)-nitro-L-arginine methyl ester (inactive isomer) aka D-NAME; “Because oral administration could not be counted on to deliver a consistent amount of drug reliably over a short (1 day) period of time, L- and D-NAME were administered by way of s.c. implanted minipumps.”


**Agents:** L-NAME

**Vehicle:** Not Stated

**Route:** SC

**Species:** Rat (pregnant)

**Pump:** Not Stated

**Duration:** Not Stated

**ALZET Comments:** Animal info (female, Sprague Dawley); teratology; cardiovascular; Bp measured using tail cuff; Dose (60 mg/kg/day);


**Agents:** L-NAME

**Vehicle:** Saline

**Route:** SC

**Species:** Rat

**Pump:** Not Stated

**Duration:** Not Stated

**ALZET Comments:** Controls received mp w/ vehicle; animal info (male, Sprague Dawley, 25-50 days old); cardiovascular; L-NAME solution prepared in laminar flow cabinet and used filter; Dose (4 mg/kg/day);

Q4602: Y. L. Tain, et al. Transcriptome Analysis in Rat Kidneys: Importance of Genes Involved in Programmed Hypertension. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES 2015;16(4744-4758

**Agents:** L-NAME

**Vehicle:** Not Stated

**Route:** SC

**Species:** Rat (pregnant)

**Pump:** Not Stated

**Duration:** Not Stated

**ALZET Comments:** Controls received mp w/ vehicle; animal info (male, Sprague Dawley, 25-50 days old); cardiovascular; Bp measured using tail cuff;


**Agents:** Angiotensin II; L-NAME

**Vehicle:** Not Stated

**Route:** SC

**Species:** Rat (pregnant)

**Pump:** Not Stated

**Duration:** Not Stated

**ALZET Comments:** Controls received mp w/ saline, iso-osmotic; animal info (female, Sprague Dawley); teratology; cardiovascular; bp measured using tail cuff;


**Agents:** Angiotensin II; L-NAME

**Vehicle:** Not Stated

**Route:** SC

**Species:** Rat (pregnant)

**Pump:** Not Stated

**Duration:** 4 days

**ALZET Comments:** animal info (male, cav-1 KO, 12 weeks old); AngII infused to induce cardiovascular injury; Dose (L-NAME 0.1 - 0.2 mg/mL; AngII 0.7-2.8 mg/kg/day);

Agents: L-NAME Vehicle: Not Stated; Route: SC; Species: Rat (pregnant); Pump: Not Stated; Duration: Not Stated;
ALZET Comments: Controls received mp w/ saline; animal info (female, Sprague Dawley, 10 weeks old); teratology; cardiovascular;


Agents: L-NAME Vehicle: Saline; Route: SC; Species: Rat (pregnant); Pump: Not Stated; Duration: Not Stated;
ALZET Comments: Controls received high protein diet; animal info (Female, Sprague Dawley); teratology


Agents: L-NAME; Insulin-like growth factor 1 receptor Vehicle: Saline; acetic acid; Route: SC; Species: Mice; Pump: Not Stated; Duration: 14 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (VHL-KO); 25% acetic acid used; immunology


Agents: L-NAME Vehicle: Not Stated; Route: SC; Species: Rat (pregnant); Pump: 2ML1; Duration: Not Stated;
ALZET Comments: Controls received mp w/ saline; animal info (Wistar Han, female, E17)


Agents: L-NAME Vehicle: Not Stated; Route: SC; Species: Rat (pregnant); Pump: 2001D; Duration: 24 hours;
ALZET Comments: Animal info (Crj Wistar); enzyme inhibitor (NOS, nitric oxide)


Agents: L-NAME Vehicle: Not Stated; Route: SC; Species: Rat (pregnant); Pump: Not Stated; Duration: 5 days;
ALZET Comments: Animal info (Wistar, female, E17); enzyme inhibitor (nitric oxide synthase, NOS);


Agents: L-NAME; fasudil Vehicle: Not Stated; Route: SC; Species: Rat (pregnant); Pump: Not Stated; Duration: Not Stated;
ALZET Comments: Controls received mp w/ normal saline; animal info (Wistar Han, 200-250 g, E14, female); enzyme inhibitor (nitric oxide synthase, NOS, Rho-kinase, ROCK); one group contained mixture of fasudil and L-NAME; teratology


Agents: L-NAME Vehicle: Not Stated; Route: Not Stated; Species: Rat (pregnant); Pump: Not Stated; Duration: Not Stated;
ALZET Comments: Controls received mp w/ vehicle; animal info (Sprague Dawley, timed-pregnant); enzyme inhibitor (NOS, nitric oxide synthase)


Agents: A-127722; A-182086; A-192621; FR-139317; L-NAME Vehicle: Ethyl alcohol; propylene glycol; NaOH; water; Route: SC; IV (jugular); Species: Rat (pregnant); Rat; Pump: Not Stated; Duration: 7 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (female, Sprague-Dawley); multiple pumps per animal (2); wound clips used; 20% ethyl alcohol used; "It is likely that administration with the pumps resulted in more consistent drug levels..." pg 242
L-NMA


**Agents:** L-NMA
**Vehicle:** Saline; **Route:** IP; **Species:** Rat; **Pump:** 1003D; **Duration:** 72 hours;
**ALZET Comments:** Controls received mp w/ vehicle; enzyme inhibitor; nitric oxide synthase inhibitors; L-NMA also called N-monomethyl-L-arginine


**Agents:** Aminoguanidine; Lysine, L-N6-(1-imino-ethyl)-; V-PYRRO/NO; L-NAME; L-NMA
**Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001D; **Duration:** 16 hours;
**ALZET Comments:** controls received mp w/vehicle; good methods (p. 406); nitric oxide synthase inhibitors; PE10 catheter tubing inserted in gastric vein; some animals implanted with one pump for gastric vein and one for jugular vein; NMA is NG-monomethyl-L-arginine

L-NMMA


**Agents:** L-NMMA
**Vehicle:** Not Stated; **Route:** IP; CSF/CNS; **Species:** Rat; **Pump:** 2ML4; **Duration:** 4 weeks;
**ALZET Comments:** Controls received mp w/ saline; replacement therapy (nephrectomy); dose-response (fig. 1); enzyme inhibitor (NO synthase); cardiovascular; animal info (male, Wistar, 7 wk. old, 240g.); cannula location confirmed by methylene blue staining


**Agents:** L-NMMA; D-NMMA
**Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; Mice (SCID); **Pump:** 1002; **Duration:** 8, 21 days;
**ALZET Comments:** Controls received mp w/ D-NMMA; pumps replaced at day 14; enzyme inhibitor (NO synthase); cancer (melanoma); cardiovascular; eNOS -/- mice; iNOS -/- mice


**Agents:** L-NMMA
**Vehicle:** Not Stated; **Route:** IP; **Species:** Rat; **Pump:** Not Stated; **Duration:** 2 weeks;
**ALZET Comments:** Controls received mp w/ saline; enzyme inhibitor (no synthase)


**Agents:** L-NMMA; D-NMMA
**Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 3 days;
**ALZET Comments:** Controls received mp w/ D-NMMA; enzyme inhibitor (NO synthase); cardiovascular


**Agents:** L-NMMA; Aminoguanidine hemisulphate; MITU
**Vehicle:** PBS; **Route:** IP; **Species:** Mice; **Pump:** Not Stated; **Duration:** 10 days;
**ALZET Comments:** Control received mp w/vehicle; comparison of IP injections vs. mp; wound healing study; MITU is S-methyl isothiouronium, a competitive NO synthase inhibitor.


**Agents:** L-NMMA; L-NAME; Aminoguanidine
**Vehicle:** Not Stated; **Route:** IV (hepatic portal); **Species:** Rat; **Pump:** Not Stated; **Duration:** Not Stated;
**ALZET Comments:** nitric oxide synthase inhibitors;
- **Agents:** L-NMMA; D-NMMA
- **Vehicle:** Not Stated
- **Route:** CSF/CNS (cisterna magna)
- **Species:** Rat
- **Pump:** 2001
- **Duration:** 7 days

**ALZET Comments:** controls received mp w/D-NMMA; no stress (p. 98); nitric oxide synthase inhibitor; L-NMMA is N6-monomethyl-L-arginine; silastic PE10 tubing connected to PE50 tubing; pump implanted 7 days after cannula implantation; catheter patency verified; cardiovascular

- **Agents:** L-NMMA
- **Vehicle:** Saline; Trypan blue
- **Route:** CSF/CNS (dorsal third ventricle)
- **Species:** Rat
- **Pump:** 2001
- **Duration:** Not Stated

**ALZET Comments:** Agent is N-monomethyl-L-arginine; enzyme inhibitor: nitric oxide synthase

- **Agents:** L-NMMA; D-NMMA
- **Vehicle:** Not Stated
- **Route:** CSF/CNS (intrathecal)
- **Species:** Guinea pig
- **Pump:** 2001
- **Duration:** Not Stated

**ALZET Comments:** Spinal cord injury

L-NNA

- **Agents:** L-NNA
- **Vehicle:** Saline
- **Route:** CSF/CNS (lateral geniculate nucleus)
- **Species:** Ferret
- **Pump:** 2002
- **Duration:** 12 days

**ALZET Comments:** Controls received mp with saline; animals received antibiotics prophylactically

- **Agents:** L-NNA; Heparin
- **Vehicle:** Saline
- **Route:** IV (jugular)
- **Species:** Rat
- **Pump:** 2ML1
- **Duration:** 6 days

**ALZET Comments:** heparin added for anticoagulation; NNA stable for at least 6 days (p. 85)

- **Agents:** L-NNA Vehicle: Saline
- **Route:** SC
- **Species:** Rat
- **Pump:** 2ML1
- **Duration:** 8 days

**ALZET Comments:** controls received mp w/ saline; comparison of ip injections vs mp; Injected L-NNA “was more effective than continuous infusion”; L-NNA is L-N-nitroarginine and is a NOS inhibitor

Methylisothiourea

- **Agents:** Methylisothiourea, S; PTIO, carboxy-; Coenzyme Q10; tempol; FeTMPyP; furosemide; PJ-34
- **Vehicle:** CSF, artificial; sesame oil
- **Route:** CSF/CNS (spinal cord)
- **Species:** Rat
- **Pump:** 1003D
- **Duration:** 3 days

**ALZET Comments:** Controls received mp w/ vehicle; multiple pumps per animal (2); post op. care (procaine penicillin); adult, male, specific pathogen free, 200-250 g.; spinal cord injury; PE-10 catheter used; PTIO is a NO trapping agent; enzyme inhibitor PJ-34 is poly(ADP-ribose) polymerase PARP inhibitor
Agents: Methylisothiourea, S; adenovirus vector; gene, mouse iNOS cDNA sequence Vehicle: Saline; Dye, methlene blue; Dye, India black ink; PBS; Route: SC (wound healing site); Species: Rat; Pump: 2001; 2ML1; Duration: 7 days;
ALZET Comments: Controls received mp w/ saline; functionality of mp verified by dye infusion; SC-implanted pumps infused 2 hydroxyproline sponges via catheter; initial studies used 2ML1 pumps to infuse dyes in order to assess the feasibility of direct infusion with pumps; iNOS inhibitor infusion was with 2001 pumps; pumps were designed to infuse directly into SC implanted polyvinyl sponges at the wound site: Adenovirus vector was dissolved in PBS; iNOS inhibitor was delivered in saline; diagram of pump-catheter assembly and location (p. 18); "Dye infusion demonstrated both grossly and microscopically excellent delivery of the infusate to wound sponges" (p. 18);

MITU
Agents: L-NMMA; Aminoguanidine hemisulphate; MITU Vehicle: PBS; Route: IP; Species: Mice; Pump: Not Stated; Duration: 10 days;
ALZET Comments: Control received mp w/vehicle; comparison of IP injections vs. mp; wound healing study; MITU is S-methyl isothiouronium, a competitive NO synthase inhibitor.

Agents: MITU Vehicle: Not Stated; Route: IP; Species: Mice; Pump: Not Stated; Duration: 10 days;
ALZET Comments: Controls received mp w/ PBS; immunology; MITU is S-methyl isothiouronium, a competitive NO synthase inhibitor; wound healing

MLA
Agents: Nicotine ditartrate; MLA; Erythroidine, dihydro-beta Vehicle: Saline, sterile; CSF, artificial; Route: SC; CSF/CNS (ventral hippocampus); Species: Rat; Pump: 2004; 2ML4; Duration: 4 weeks;
ALZET Comments: Controls received mp w/ vehicle; multiple pumps per animal (2); animal info (female, Sprague-Dawley, 200-300g.); neurodegenerative (Alzheimer's disease); methyllycaconitine; cannula placement confirmed w/ Chicago sky-blue dye; schizophrenia

Agents: MLA Vehicle: Not Stated; Route: IP; Species: Mice (nude); Pump: 1007D; Duration: 7 days;
ALZET Comments: Cancer (head, neck); MLA is NW-monomethyl-L-arginine

Agents: MLA Vehicle: Not Stated; Route: SC; Species: Mice; Pump: 2001; Duration: Not Stated;
ALZET Comments: Controls received sham implantation; MLA is n-monomethyl-L-arginine, an NOS inhibitor; cancer;
Agents: MLA Vehicle: Not Stated; Route: SC; Species: Mice; Pump: 2001; Duration: 8 days;
ALZET Comments: Controls received sham surgery; pumps replaced after 8 days; cancer;

Agents: MLA Vehicle: Not Stated; Route: SC; Species: Mice; Pump: 2001; 1007D; Duration: Not Stated;
ALZET Comments: Controls received sham implantation or no treatments; immunology; toxicology
**Nitroindazole**


**Agents:** Butorphanol tartrate; Nitroindazole, 7-

**Vehicle:** Saline; DMSO; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 2001; **Duration:** 72 hours;

**ALZET Comments:** Enzyme inhibitor (nitric oxide synthase, NOS); animal info (male, Sprague Dawley, 250-275 g.); pump connected to catheter after 1 week recovery period; 10% DMSO used; PE60 tubing used

**P8379:** T. Thippeswamy, et al. NO-cGMP mediated galanin expression in NGF-deprived or axotomized sensory neurons. Journal of Neurochemistry 2007;100(3):790-801

**Agents:** Nitroindazole, 7-

**Vehicle:** DMSO; **Route:** IP; **Species:** Rat; **Pump:** 2ML1; **Duration:** 7 days;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (male, Wistar, Albino, 250-280g.); 20% DMSO


**Agents:** Nitroindazole, 7-

**Vehicle:** Not Stated; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 2ML1; **Duration:** 7 days;

**ALZET Comments:** Controls received mp w/ saline; enzyme inhibitor (nitric oxide synthase); cyanoacrylate adhesive

**P3492:** T. Bazzett, et al. The neuronal NOS inhibitor L-MIN, but not 7-NINA, reduces neurotoxic effects of chronic intrastriatal administration of quinolinic acid. Brain Research 1997;775(229-232

**Agents:** Quinolinic acid; Nitroindazole, 7-, sodium salt; thiocitrulline dihydrochloride, methyl-

**Vehicle:** PBS; **Route:** CSF/CNS (striatum); **Species:** Rat; **Pump:** 2002; **Duration:** Not Stated;

**ALZET Comments:** Dose-response; microdialysis; quinolinic acid administered alone or w/1 other agent in same pump; enzyme inhibitor; nitric oxide synthase inhibitor;


**Agents:** Nitroindazole, 7-, sodium salt **Vehicle:** Not Stated; **Route:** IP; **Species:** Gerbil; **Pump:** 1003D; **Duration:** 72 hours;

**ALZET Comments:** Comparison of ip injections vs. mp; 2 pumps implanted in each animal; 7-nitroindazole is a neuronal nitric oxide synthase inhibitor; neuroprotection seen when 7-nitroindazole was infused via mp, but not when injected 12X after occlusion

**Thiocitrulline**


**Agents:** S-Methyl-L-thiocitrulline **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 1007D; **Duration:** 7 days;

**ALZET Comments:** Dose (0.5 ± 0.1 μL/hr/day); 0.9% saline used; animal info (male Sprague Dawley); post op. care (Ampicillin, meloxicam); enzyme inhibitor (S-Methyl-L-thiocitrulline is a neuronal nitric oxide synthase (nNOS) inhibitor); Brain coordinates (AP–1.0 mm, ML –2.0 mm, DV –3.5mm from bregma); bilateral cannula used; dependence;

**P3492:** T. Bazzett, et al. The neuronal NOS inhibitor L-MIN, but not 7-NINA, reduces neurotoxic effects of chronic intrastriatal administration of quinolinic acid. Brain Research 1997;775(229-232

**Agents:** Quinolinic acid; Nitroindazole, 7-, sodium salt; thiocitrulline dihydrochloride, methyl-

**Vehicle:** PBS; **Route:** CSF/CNS (striatum); **Species:** Rat; **Pump:** 2002; **Duration:** Not Stated;

**ALZET Comments:** Dose-response; microdialysis; quinolinic acid administered alone or w/1 other agent in same pump; enzyme inhibitor; nitric oxide synthase inhibitor;