Recent References (2015-2020) on Wound Healing Studies
Using ALZET® Osmotic Pumps

Q8627: J. Leslie, et al. FPR-1 is an important regulator of neutrophil recruitment and a tissue-specific driver of pulmonary fibrosis. JCI Insight 2020;5(4):
Agents: Antibody, Ly6G; Antibody, IgG2a Vehicle: Not stated; Route: SC; Species: Mice; Pump: 2004; 1007D; Duration: 21 days; 1 day;
ALZET Comments: Dose (28.5 μg/mouse/d; 57 μg/mouse/d); animal info (C57BL/6 and fpr1–/– mice (male, 8–10 weeks old)); Ly6G Antibody aka 2A3; IgG2a Antibody aka 1A8; immunology;

Agents: CD73 Vehicle: Saline; Route: SC; Species: Mice; Pump: Not stated; Duration: #REF!;
ALZET Comments: Dose (250 mg/kg); Controls received mp w/ vehicle; animal info (Male, 8-12 weeks old, 18-25 g); CD73 aka 5’ nucleotidase; ischemia (Ischemia-reperfusion injury);

Agents: Aprepitant Vehicle: Saline; Route: SC; Species: Mice; Pump: 1004; Duration: 4 weeks;
ALZET Comments: Dose (1 mg/kg/day); Controls received mp w/ vehicle; animal info (Female, 7 weeks old, Balb/C); dependence;

Agents: CXCL4 Vehicle: Saline; Route: SC; Species: Mice; Pump: Not stated; Duration: 24 hours;
ALZET Comments: Dose (2.5, 5, 25, or 50 ug/kg/day); Controls received mp w/ vehicle; animal info (C57BL/6J, 3-6 months old); cardiovascular;

Agents: Cordycepin Vehicle: DMSO; Route: SC; Species: Mice; Pump: Not stated; Duration: 7 days;
ALZET Comments: Dose (2.4 mg/kg/day); Controls received mp w/ vehicle; animal info (BALB/c, ); dependence;

Agents: EX-527; 10068-F4 Vehicle: Not Stated; Route: SC; Species: Mice; Pump: 1002; Duration: 4 weeks;
ALZET Comments: Dose ( EX-527 5 mg/kg/day, 10068-F4 30mg/kg/day ); Controls received mp w/ vehicle; animal info (BKS.Cg-Dock7mC=CLeprdb=J mice, 8 weeks old); enzyme inhibitor (EX-527 is an SIRT1 inhibitor, 10058-F$ is a c-Myc inhibitor); diabetes;

Agents: Peptide Fragment of Wnt5a Vehicle: Saline; Route: SC; Species: Mice; Pump: 2006; Duration: 5 weeks;
ALZET Comments: Dose (6 μg/kg/day); Controls received mp w/ vehicle; animal info (Male Swiss mice, 10–12 weeks of age); Peptide Fragment of Wnt5a aka UM206; cardiovascular;

Agents: ketone, six amino acid chloromethyl- Vehicle: Saline; Route: SC; Species: Rat; Pump: 2001; 2002; Duration: 7 days; 14 days;
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Bibliography

ALZET Comments: Dose (0.2 ug/kg/day; 2ug/kg/day; 20 ug/kg/day); animal info (Adult Lewis rats 270–335 g); six amino acid chloromethyl-ketone aka SIXAC; enzyme inhibitor (SIXAC inhibit thrombin); ALZET brain infusion kit used; Brain coordinates (1mm lateral x 3mm posterior to the Bregma, 5.5mm deep); MRI;

Q7251: J. H. Park, et al. TAK-733 inhibits inflammatory neointimal formation by suppressing proliferation, migration, and inflammation in vitro and in vivo. Experimental & Molecular Medicine 2018;50(4):37
Agents: Angiotensin II Vehicle: Not Stated; Route: SC; Species: Rat; Pump: 2004; Duration: 2 Weeks;
ALZET Comments: Dose (500 ng/kg/min); Controls received mp w/ saline; animal info (Male Sprague-Dawley rats weighing 250-300 g); cardiovascular;

Agents: Trametinib Vehicle: DMSO; Route: SC; Species: Mice; Pump: 1002; Duration: 8 days;
ALZET Comments: Dose (1.5 mg/kg/day); Controls received mp w/ vehicle; animal info (Male, 12 weeks old, 20-25 g, C57BL/6); gene therapy;

Agents: bleomycin Vehicle: Saline, sterile; Route: SC; Species: Mice; Pump: 2001; Duration: 7 days;
ALZET Comments: Dose (1 μL/h of 125 mg/kg bleomycin); Controls received no vector and mp w/ vehicle; animal info (10-12 weeks, male, C57BL6/J, 25-30g); immunology;

Q7078: N. Kumar, et al. Thymosin beta4 Deficiency Exacerbates Renal and Cardiac Injury in Angiotensin-II-Induced Hypertension. Hypertension 2018;71(6):1133-1142
Agents: Angiotensin II Vehicle: Saline; Acetic acid; Route: SC; Species: Mice; Pump: Not Stated; Duration: 6 weeks;
ALZET Comments: Dose (980 ng/kg/min); animal info (8-10 week old C57BL/6 and TBeta4 KO mice); cardiovascular;

Agents: Dinitrocatechol, 3,5- Vehicle: saline, DMSO and ethanol buffered; Route: SC; Species: Mice (adult); Pump: 1002; Duration: 13 days;
ALZET Comments: Dose (15 mg/kg/d); 5:2:3 ratio of DMSO, ethanol and saline used; animal info (12-16 weeks, male and female, C57BL/6 or MRL/MpJ); behavioral testing (von Frey test); comparison of acupuncture vs mp; 3,5-Dinitrocatechol AKA OR486 is a COMT inhibitor; enzyme inhibitor (catechol-O-methyltransferase);

Agents: THyroid hormone Vehicle: Saline; Route: SC; Species: Rat; Pump: 2ML4; Duration: Not Stated;
ALZET Comments: Dose (3 μg/kg/day); Controls received mp w/ vehicle; cardiovascular;

Agents: Ganciclovir Vehicle: Water; Route: SC; Species: Mice; Pump: 2002; Duration: 28 days;
ALZET Comments: Dose (100 mg/kg/day); animal info (NestinTK); pumps replaced every 2 weeks; neurodegenerative (Spinal Chord);
Agents: Angiotensin II Vehicle: Not stated; Route: SC; Species: Mice; Pump: 2004; Duration: 4 weeks;
ALZET Comments: Dose (Ang II 1000 ng/kg per minute); animal info (E1841K mutation); diabetes;

Agents: Angiotensin II Vehicle: Not Stated; Route: Not Stated; Species: Rat; Pump: 2004; 2ML4; Duration: 5 weeks;
ALZET Comments: Controls received mp w/ saline; animal info (male, Sprague Dawley, 180-220g); cardiovascular; peptides; Dose (25 ug/kg/hr);

Agents: EUK-207 Vehicle: Water; Route: SC; Species: Mice; Pump: Not Stated; Duration: Not Stated;
ALZET Comments: Controls received mp w/ vehicle; animal info (2 months old); behavioral testing (Morris Water Maze, Fear Conditioning); EUK-207 is a catalytic ROS scavenger ; Therapeutic indication (Hippocampus, hippocampal injury, cognitive impairment); Dose (0.2 mg/kg/day);

Agents: YM155 Vehicle: Not Stated; Route: SC; Species: Mice (nude); Pump: 1007D; Duration: 7 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (female, nude, 5 weeks old); cancer (Oral squamous cell carcinoma SCC9); Dose (5 mg/kg/day); xenograph model;

Agents: arginine, N(omega)-hydroxy-nor-l Vehicle: Not Stated; Route: SC; Species: Mice; Pump: 1004; Duration: 33 days;
ALZET Comments: animal info (InvEE); functionality of mp verified by plasma levels; stress/adverse reaction: (see pg. 811); immunology; “Continuous dosing at a rate of 0.25 mL per hour ensured constant compound levels. Successful ARG1 inhibition was confirmed in blood plasma and wounded skin samples taken 5 days after implantation” pg 811; nor-NOHA aka N(omega)-hydroxy-nor-l-arginine;

Agents: Erythropoietin, recombinant human Vehicle: Not Stated; Route: SC; Species: Mice (knockout); Mice (transgenic); Pump: Not Stated; Duration: 30 days;
ALZET Comments: Dose (3 U EPO/day or 10 U EPO/day ); Controls received mp w/ vehicle or control antibody; animal info (8-12 week old WT and Osx;cre-PHD2f/f and Vav;cre-PHD2f/f mice);

Agents: Placenta growth factor, recombinant human antibody, interleukin-1B Vehicle: PBS; Route: SC; Species: Mice; Pump: 1007D; Duration: 7 days;
ALZET Comments: Controls received mp w/ vehicle or control antibody; animal info (male, C57BL6, 8 weeks old, STZ); immunology; diabetes; Dose (PIGF 10 ug/mouse; anti-IL-1B 1 ug/day);

Agents: Triiodothyronine Vehicle: Saline; Route: SC; Species: Rat; Pump: 2002; Duration: 48 hours;
ALZET Comments: Dose (6 mg/kg/day); Controls received mp w/ vehicle; animal info (adult male Wistar rats weighing 385 ± 9 g); Triiodothyronine aka T3; cardiovascular;

Agents: Angiotensin II
Vehicle: Not Stated
Route: Not Stated
Species: Mice
Pump: 1004
Duration: 3 months

ALZET Comments: Controls received mp w/ vehicle; animal info (Female low-density lipoprotein-receptor-deficient (Ldlr−/−) mice on a C57BL/6 background; 2–3 months of age); functionality of mp verified by ; long-term study; pumps replaced every 4 weeks; Dose (1000 ng/kg/min);


Agents: Transforming growth factor-
Vehicle: PBS
Route: SC
Species: Mice
Pump: 1007D
Duration: 7 days

ALZET Comments: Controls received mp w/ vehicle; animal info (male, C57Bl6, 8 weeks old, diabetes induced STZ); immunology; diabetes;


Agents: Triiodothyronine
Vehicle: Saline
Route: SC
Species: Rat
Pump: 2002
Duration: 3 days

ALZET Comments: Controls received mp w/ vehicle; animal info (male, Wistar, adult, 385+/− 9 g); functionality of mp verified by serum levels; cardiovascular; pumps removed after 3 days; Dose (6 ug/kg/day);


Agents: C-peptide
Vehicle: PBS
Route: SC
Species: Mice
Pump: 2004
Duration: 2 weeks

ALZET Comments: Controls received sham surgery; animal info (male, C57BL6J, 6 weeks old, streptozotocin induced diabetes); cardiovascular; peptides; diabetes;


Agents: Nerve growth factor, human B
Vehicle: PBS
Route: CSF/CNS (inferior alveolar nerve)
Species: Dog (beagle)
Pump: 2ML2
Duration: 6 weeks

ALZET Comments: Controls received mp w/ vehicle; animal info (male, beagle, 18 weeks old, 10-12 kg); good methods (picture of implant pg 413); Multiple pumps per animal (2; one pump delivered NGF other delivered PBS); used rat jugular catheter, 15 cm long; pump body placed into retromandibular area; long-term study;

Q4329: J. C. Bihl, et al. Angiotensin-(1-7) counteracts the effects of Ang II on vascular smooth muscle cells, vascular remodeling and hemorrhagic stroke: Role of the NFkappaB inflammatory pathway. VASCULAR PHARMACOLOGY 2015;73(115-123

Agents: Angiotensin II; angiotensin (1-7); A-779
Vehicle: Not Stated
Route: IP
Species: Mice
Pump: 1004
Duration: 4 weeks

ALZET Comments: Controls received mp w/ vehicle; animal info (C57BL6, 8-10 weeks old, 25-32g); ischemia (cerebral); behavioral testing (gait, circling/climbing behavior, body and front limb symmetry, compulsory circling); cardiovascular; peptides; bp measured using radiotelemetry (DSI); pumps primed for 48h at 37C sterile isotonic saline; used IP catheter; "Ang II and Ang-(1–7) infusions led to a significant increase in plasma Ang II andAng-(1–7) levels, which indicate the success of minipump infusions"

Q4295: A. Aguado, et al. HuR mediates the synergistic effects of angiotensin II and IL-1 on vascular COX-2 expression and cell migration. British Journal of Pharmacology 2015;172(3028-3042

Agents: Angiotensin II
Vehicle: Saline
Route: SC
Species: Mice
Pump: Not Stated
Duration: 2 weeks

ALZET Comments: Controls received mp w/ vehicle; animal info (male, C57BL6J); cardiovascular; peptides;