



**Recent References (2020-Present) on Diabetes Research
Using ALZET® Osmotic Pumps**

Q10738: J. Zhan, *et al.* Positive Feedback Loop of miR-320 and CD36 Regulates the Hyperglycemic Memory-Induced Diabetic Diastolic Cardiac Dysfunction. *Molecular Therapy Nucleic Acid* 2023;31(122-138

Agents: Insulin **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1004; **Duration:** 4 weeks;

ALZET Comments: Dose (40 mg/kg); Controls received mp w/ vehicle; animal info (mice (8-week-old males); diabetes;

Q11024: T. Wei, *et al.* Glucagon Acting at the GLP-1 Receptor Contributes to beta-Cell Regeneration Induced by Glucagon Receptor Antagonism in Diabetic Mice. *Diabetes* 2023;72(5):599-610

Agents: Exendin 9-39 **Vehicle:** Saline; **Route:** Not Stated; **Species:** Mice; **Strain:** db/db; **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose (50 nmol/kg/day); Controls received mp w/ vehicle; animal info: Male (8 weeks old; diabetes; Ex9 is a GLP-1R antagonist

Q11023: H. Watanabe, *et al.* Cyb5r3-based mechanism and reversal of secondary failure to sulfonylurea in diabetes. *Science Translational Medicine* 2023;15(

Agents: Glibenclamide **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Strain:** C57BL/6; **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose (20 mg/kg per day); diabetes; GLB is a third-gen sulfonylurea (induce insulin secretion)

Q10995: S. A. Shah, *et al.* Obesity-Induced Coronary Microvascular Disease Is Prevented by iNOS Deletion and Reversed by iNOS Inhibition. *JACC Basic to Translational Science* 2023;8(5):501-514

Agents: 1400W **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1004; **Duration:** Not Stated;

ALZET Comments: Dose (30 mg/kg/day); animal info: mice, 8 weeks of age; Blood pressure measured via Radiotelemetry; Blood pressure measurement (see pg.9) table 2; 1400W is a highly selective iNOS inhibitor/antagonist; obesity; diabetes; cardiovascular (coronary microvascular disease, heart failure)

Q10987: D. Rogacka, *et al.* Inhibition of phosphodiesterase 5A by tadalafil improves SIRT1 expression and activity in insulin-resistant podocytes. *Cellular Signaling* 2023;105(110622

Agents: Tadalafil **Vehicle:** DMSO; **Route:** SC; **Species:** Rat; **Strain:** Wistar; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Dose Tadalafil (2.5 mg/kg/day); Controls received mp w/ vehicle; animal info: Male Wistar rats; post op. care (Butomidor (10 mg/ml) and gentamicin (50 mg/ml) were subcutaneously administered; tadalafil is a highly selective inhibitor of PDE5A on SIRT1 expression and activity; diabetes;

Q10984: G. Rached, *et al.* TRPC3 Regulates Islet Beta-Cell Insulin Secretion. *Advanced Science* 2023;10(6):e2204846

Agents: GSK1702934A **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Trpc3^{-/-}; **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose (0.1 mg/kg/day); animal info: WT mice; GSK 1702934A is a small molecule, potent and selective TRPC3/6 activator; functionality of mp verified by plasma insulin levels; diabetes;

Q10973: A. K. Palbrink, *et al.* Betahistine prevents development of endolymphatic hydrops in a mouse model of insulin resistance and diabetes. *Acta Oto-Laryngologica* 2023;143(2):127-133

Agents: Betahistidine; spironolactone; empagliflozin; cilostamide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; CBA/J; **Pump:** 1004; **Duration:** 30 days;

ALZET Comments: Dose: Betahistine 26 mg/kg/day; Spironolactone 0.5 mg/kg/day; Empagliflozin 1.2 mg/kg/day; Cilostamide 0.5 mg/kg/day; animal info: Female 8 weeks, 26–27 gram; spironolactone (aldosterone antagonist); empagliflozin (sodium-glucose cotransporter2 inhibitor); cilostamide (phosphodiesterase3 inhibitor); diabetes



Q10972: P. Pakataridis, *et al.* EVIDENCE FOR BIOLOGICAL EFFECTS OF THE HEXAPEPTIDE NOVOKININ. *Journal of Chemical Technology and Metallurgy* 2023;58(3):608-614

Agents: Novokinin **Vehicle:** Saline, sterile; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** SHR; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose: 0.3 ug/rat/day; Controls received mp w/ vehicle; animal info: 2-month-old female 220 - 280g; receptor agonist (angiotensin AT2 receptor agonist novokinin aggravates some diabetes mellitus-induced alterations in Wistar); ALZET brain infusion kit 2 used; Brain coordinates (1.5 mm lateral (right) to the sagittal suture, 1 mm caudal to bregma, and a depth of 3 mm); behavioral testing Open field test; Elevated plus maze test; Paw pressure test; T-maze rewarded alternating test; Novel object recognition; anxiety; memory

Q10959: S. Maurotti, *et al.* Preventing muscle wasting: pro-insulin C-peptide prevents loss in muscle mass in streptozotocin-diabetic rats. *Journal of Cachexia, Sarcopenia and Muscle* 2023;14(2):1117-1129

Agents: C-peptide **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Strain:** Wistar; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (72 nmol/kg /24 h); animal info: adult T1DM male; Controls received mp w/ vehicle; animal info: 4-month-old male Wistar rats (400–500 g)diabetes;

Q11100: Y. Duan, *et al.* Adiponectin-mediated promotion of CD44 suppresses diabetic vascular inflammatory effects. *iScience* 2023;26(4):106428

Agents: Adiponectin; CD44 C-terminal polypeptide **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Strain:** Wild-type, APPL1KO; **Pump:** Not Stated; **Duration:** 10.1016/j.isci.2023.106428;

ALZET Comments: Dose (0.25 ug/g/day); animal info (Fed high-fat diet ; Male and female); peptides; diabetes;

Q10440: K. Aoyagi, *et al.* A new beta cell-specific mitophagy reporter mouse shows that metabolic stress leads to accumulation of dysfunctional mitochondria despite increased mitophagy. *Diabetologia* 2023;66(1):147-162

Agents: Humulin R **Vehicle:** Saline; **Route:** Not Stated; **Species:** Mice; **Strain:** RIP-Cre;

ALZET Comments: "Dose: (0.36 U/day)Controls received mp w/ vehicle; Pink1 knockout mice; diabetes

Q10928: F. Andreozzi, *et al.* Glucagon induces the hepatic expression of inflammatory markers in vitro and in vivo. *Diabetes Obesity & Metabolism* 2023;25(2):556-569

Agents: Glucagon **Vehicle:** Saline, sterile; **Route:** Not Stated; **Species:** Mice; **Strain:** Hsd:ICR (CD-1); **Pump:** 1004; **Duration:** 28 days;

ALZET Comments: Dose (1 ug/h); 0.9% saline used; Controls received mp w/ vehicle; animal info (Four-week-old male mice); functionality of pump verified by measuring residual volume; diabetes; immunology

Q10908: D. Zhu, *et al.* Irisin Rescues Diabetic Cardiac Microvascular Injury Via ERK1/2/Nrf2/HO-1 Mediated Inhibition of Oxidative Stress. *Diabetes Research and Clinical Practice* 2022;183(109170

Agents: Irisin **Vehicle:** Saline; **Route:** IP; **Species:** Mice; **Pump:** Not Stated; **Duration:** 12 weeks;

ALZET Comments: Dose (0.5 ug/g body weight/day); controls received mp w/ vehicle; animal info (T2DM Male; Fed a high fat diet at 4 weeks old to induce diabetes); long-term study; cardiovascular; diabetes; Therapeutic indication (Diabetes);

Q10894: Y. Zheng, *et al.* Adiponectin Ameliorates Placental Injury in Gestational Diabetes Mice by Correcting Fatty Acid Oxidation/Peroxide Imbalance-Induced Ferroptosis Via Restoration of CPT-1 Activity. *Endocrine* 2022;75(3):781-793

Agents: Adiponectin, recombinant full-length **Species:** Mice; **Pump:** 1003D; **Duration:** 17 days;

ALZET Comments: Dose (10 ug/d); animal info (C57BL/6 Female; 6 weeks old; Weigh 16-18 g, high fat diet); diabetes;

Q10895: J. Zheng, *et al.* cPKCgamma Deficiency Exacerbates Autophagy Impairment and Hyperphosphorylated Tau Buildup through the AMPK/mTOR Pathway in Mice with Type 1 Diabetes Mellitus. *Neuroscience Bulletin* 2022;38(10):1153-1169

Agents: Rapamycin **Vehicle:** DMSO; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Duration:** 14 days;

ALZET Comments: Dose: (0.2 mg/kg); Controls received mp w/ vehicle; animal info: Adult male wild-type (cPKCy-/-) and cPKCc knockout (cPKCc-/-) C57BL/6 mice (18 g–22 g, 6–8 weeks) diabetes mellitus; behavioral testing: Morris Water Maze (MWM) Test; Brain coordinates (AP - 0.5 mm, ML + 1.0 mm, and DV - 2.8 mm relative to bregma); diabetes;



Q10777: W. Wang, *et al.* Diabetic hyperglycemia promotes primary tumor progression through glycation-induced tumor extracellular matrix stiffening. *Science Advances* 2022;

Agents: Insulin **Vehicle:** Citrate buffer; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 7 weeks;

ALZET Comments: Dose: Insulin (0.5 U of insulin per mouse per day); Controls received mp w/ vehicle; animal info: Female MMTV-PyMT mice of the FVB strain background (4 weeks of age.); diabetes;

Q10764: B. Wang, *et al.* WNT1-Inducible Signaling Pathway Protein 1 Regulates Kidney Inflammation Through the NF-kappaB Pathway. *Clinical Science (Lond)* 2022;136(1):29-44

Agents: Immunoglobulin G; WISP1, antibody **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Pump:** 1007D; **Duration:** 7 days;

ALZET Comments: Controls received mp w/ vehicle; animal info C57BL/6 (Male; Weighed 20-25 g; 7-8 weeks old; Induced overt diabetes and developed chronic kidney fibrosis); Therapeutic indication (Inflammation in kidney disease);

Q10669: M. Sakaguchi, *et al.* Phosphatase Protector Alpha4 (alpha4) is Involved in Adipocyte Maintenance and Mitochondrial Homeostasis Through Regulation of Insulin Signaling. *Nature Communications* 2022;13(1):6092

Agents: Leptin **Vehicle:** Saline, sterile; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 2 weeks;

ALZET Comments: Dose (10 µg/mouse/day); Controls received mp w/ vehicle; animal info (8-week-old Aa4KO mice); diabetes;

Q10646: R. Perez-Villavicencio, *et al.* Effect of Empagliflozin on Sphingolipid Catabolism in Diabetic and Hypertensive Rats. *International Journal of Molecular Sciences* 2022;23(5):

Agents: Angiotensin II **Vehicle:** Isoflurane; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** 2 weeks;

ALZET Comments: Dose (435 ng/kg/min); Controls received mp w/ vehicle; animal info (Male Wistar rat; Weighed 350-360 g); post op. care (Empagliflozin treatment for 2 weeks); peptides; cardiovascular (hypertension); diabetes;

Q10827: F. Li, *et al.* TEAD1 regulates Cell Proliferation Through a Pocket-Independent Transcription Repression Mechanism. *Nucleic Acids Research* 2022;50(22):12723-12738

Agents: Insulin, human **Vehicle:** Saline; **Route:** SC; **Species:** Mice (transgenic); **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose (0.2 U/day); 0.9% NaCl used; Controls received mp w/ vehicle; animal info TKO pancreatic B cell specific TEAD1 ko mice; 4-weeks old; functionality of mp verified by blood glucose levels; diabetes

Q10583: M. Kuczeriszka, *et al.* Role of Ang1-7 in Renal Haemodynamics and Excretion in Streptozotocin Diabetic Rats. *Clinical and Experimental Pharmacology and Physiology* 2022;49(3):432-441

Agents: Angiotensin (1-7) **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** 2 weeks;

ALZET Comments: Dose: (400 ng/min); Controls received mp w/ vehicle; animal info: Male Sprague Dawley rats, (227–250g) normoglycaemic or diabetic; Blood pressure measured via: Tail cuff; Blood pressure measurements (p.435) see Fig.1; Angiotensin (1-7) aka Ang (1-7); diabetes; Diabetes mellitus

Q10569: M. Kaplanian, *et al.* Deciphering Metformin Action in Obese Mice: A Critical Re-Evaluation of Established Protocols. *Metabolism* 2022;128(154956

Agents: Metformin **Vehicle:** Saline; **Route:** IP; **Species:** Mice; **Pump:** Not Stated; **Duration:** 1 month;

ALZET Comments: Dose (13.3 mg/kg daily); Controls received mp with vehicle; animal info (8-weeks old; C57BL/6; male; obese; high fat diet); diabetes;

Q10514: L. B. James-Allan, *et al.* A Novel Technique Using Chronic Infusion Of Small Extracellular Vesicles From Gestational Diabetes Mellitus Causes Glucose Intolerance In Pregnant Mice. *Clinical Science (Lond)* 2022;136(21):1535-1549

Agents: Vesicle, human small extracellular **Vehicle:** PBS; **Route:** IV (jugular); **Species:** Mice; **Pump:** 1003D; **Duration:** 4 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (Pregnant female C57BL6 mice); jugular catheter used; gestational diabetes mellitus



Q10527: D. Gueddouri, *et al.* Insulin resistance per se drives early and reversible dysbiosis-mediated gut barrier impairment and bactericidal dysfunction. *Molecular Metabolism* 2022;57(10):1438

Agents: S961 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (Male; 8 weeks old C57BL/6J); S961 aka Insulin receptor peptide antagonist; peptides; diabetes;

Q10523: L. J. Fritsch, *et al.* Exercise prevents whole body type 2 diabetes risk factors better than estradiol replacement in rats. *Journal of Applied Physiology* (1985) 2021;131(5):1520-1531

Agents: Estradiol **Vehicle:** DMSO; **Route:** SC; **Species:** Rat; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose: (1.4µg/day); 50% sterile DMSO vehicle used; animal info: 181 ± 2 g female Wistar rats; replacement therapy (Estradiol); diabetes; type II diabetes

Q10430: M. Crespo-Masip, *et al.* Elimination of Vitamin D Signaling Causes Increased Mortality in a Model of Overactivation of the Insulin Receptor: Role of Lipid Metabolism. *Nutrients* 2022;14(7):

Agents: Glucose, D-(+); Mannitol, D- **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Pump:** 2006; **Duration:** 42 days;

ALZET Comments: Controls received mp w/ vehicle; animal info: Cre-negative littermates were used as controls (CNT).

Twenty-one days after birth, dependence; Taken together, the results shown in the present paper point to the paramount role of an adequate (vitamin D) signaling pathway in hypoglycemia induced by overactivation of the insulin receptor. Thus, in T1 diabetic patients, especially in the lean phenotype, maintaining correct levels of vitamin D could support proper lipid metabolism and decrease deaths induced by insulin dosing errors. (pg.13)"; diabetes

Q10428: C. H. Cho, *et al.* Role of the JAK/STAT pathway in a streptozotocin-induced diabetic retinopathy mouse model. *Graefes Archive Clinical and Experimental Ophthalmology* 2022;260(11):3553-3563

Agents: STAT3 inhibitor; JAK inhibitor 1 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 8 weeks;

ALZET Comments: Dose (STAT3 40 mg/kg; JAK 45 mg/kg); animal info (Male; 6 weeks old; Weighed 18-22 g); pumps replaced every 4 weeks; diabetes;

Q10425: X. Chen, *et al.* Klotho-derived peptide 6 ameliorates diabetic kidney disease by targeting Wnt/beta-catenin signaling. *Kidney International* 2022;102(3):506-520

Agents: KP6 **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Pump:** Not Stated; **Duration:** 8 weeks;

ALZET Comments: Dose: KP6 (1 mg/kg per day); Controls received mp w/ vehicle; animal info: Male CD-1 mice; SAU mice; Male db/db and db/m mice; pump replaced after 4 weeks Klotho derived peptide 6 aka (KP6); peptides; diabetes;

Q10416: J. M. Brown, *et al.* Combined micro-osmotic pump infusion and intracerebroventricular injection to study FGF1 signaling pathways in the mouse brain. *STAR Protocols* 2022;3(2):101329

Agents: UO126 **Vehicle:** DMSO; Saline; **Route:** CSF/CNS; **Species:** Mice; **Pump:** 1003D; **Duration:** Not Stated;

ALZET Comments: Dose (30 mg); 50% DMSO and saline used; Controls received mp w/ vehicle; animal info (Male; 8 weeks old); post op. care (Buprenorphine); dental cement used; diabetes;

Q10365: F. Brial, *et al.* Diet dependent impact of benzoate on diabetes and obesity in mice. *Biochimie* 2022;194(35-42)

Agents: Benzoate **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (0.15 ul/h); 0.9% NaCl; Controls received mp w/ vehicle; animal info (Male; 6 weeks old; Fed high carbohydrate or high fat/sucrose diet); diabetes; Therapeutic indication (Cardiometabolic diseases);

Q10408: V. Barrios, *et al.* Chronic Central Leptin Infusion Promotes an Anti-Inflammatory Cytokine Profile Related to the Activation of Insulin Signaling in the Gastrocnemius of Male Rats. *Biomedicine* 2022;10(7):

Agents: Leptin **Vehicle:** Saline; BSA; **Route:** CSF/CNS (right ventricle); **Species:** Rat; **Pump:** Not Stated; **Duration:** 14 days;

ALZET Comments: Dose (12 µg/day); 0.9% saline and 1% serum albumin used; Controls received mp w/ vehicle; animal info (Male; Weighed about 250 g); diabetes;



Q10352: M. M. Aljumaiah, *et al.* Association of Maternal Diabetes and Autism Spectrum Disorders in Offspring: a Study in a Rodent Model of Autism. *Journal of Molecular Neuroscience* 2022;72(2):349-358

Agents: Glargine **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Rat; **Pump:** Not Stated; **Duration:** 45 days;

ALZET Comments: Dose (100 IU/mL); animal info (9 total; Female; Weighed about 280 g); glargine is an insulin analogue; neurodegenerative (Autism); diabetes; Therapeutic indication (Autism)

Q9543: Y. Wang, *et al.* Experimental study on renoprotective effect of intermedin on diabetic nephropathy. *Molecular and Cellular Endocrinology* 2021;528(111224

Agents: Intermedin **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose (100 ng/kg/h); Controls received mp w/ vehicle; animal info (male Six-week-old healthy SPF-grade SD rats, 130-170 g); Intermedin aka IMD; diabetes;

Q10282: W. Sun, *et al.* Local acetate inhibits brown adipose tissue function. *Proceedings of the National Academy of Sciences of the United States of America* 2021;118(49):

Agents: Sodium Acetate **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** Not Stated;

ALZET Comments: Dose (0.5 µL/h); animal info (Adult male C57B6); diabetes;

Q9484: A. Sotokawauchi, *et al.* DNA aptamer raised against receptor for advanced glycation end products suppresses renal tubular damage and improves insulin resistance in diabetic mice. *Diabetes & Vascular Disease Research* 2021;18(1):1479164121990533

Agents: RAGE-Apt **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Pump:** Not Stated; **Duration:** 8 weeks;

ALZET Comments: Dose (2.0 pmol/day/g); animal info (Male 8-week-old KKAY/Ta mice); Blood pressure measured via tail-cuff

Q10339: E. Song, *et al.* Cardiac Autophagy Deficiency Attenuates ANP Production and Disrupts Myocardial-Adipose Cross Talk, Leading to Increased Fat Accumulation and Metabolic Dysfunction. *Diabetes* 2021;70(1):51-61

Agents: Atrial natriuretic peptide **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose: (0.05 µg/kg/min) Controls received mp w/ vehicle; animal info: 7 weeks in male mice; diabetes;

Q10304: B. Proniewski, *et al.* Systemic Administration of Insulin Receptor Antagonist Results in Endothelial and Perivascular Adipose Tissue Dysfunction in Mice. *Cells* 2021;10(6):

Agents: S961 **Vehicle:** NaCl; DMSO; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose: (0.57 mg/kg/day); 0.9% NaCl; 10% DMSO vehicle used; Controls received mp w/ vehicle; animal info: 12-week-old male C57BL/6Jrj mice; S961, peptide is an insulin receptor antagonist; peptides; diabetes;

Q9351: K. C. Ling, *et al.* Effects of sustained GABA releasing implants on pancreatic islets in mice. *Drug Delivery and Translational Research* 2021;11(5):2198-2208

Agents: Aminobutyric acid, gamma **Vehicle:** Saline; **Route:** IP; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose (10 mg/kg/day); animal info (CD-1 IGS mice, 67 to 81 days old); Gamma-aminobutyric acid aka GABA;

Q10010: M. A. H. Khan, *et al.* Multitarget molecule, PTUPB, to treat diabetic nephropathy in rats. *British Journal of Pharmacology* 2021;178(22):4468-4484

Agents: PTUPB **Vehicle:** Not stated; **Route:** IP; **Species:** Rat; **Pump:** Not Stated; **Duration:** 8 weeks;

ALZET Comments: Controls received mp w/ vehicle; animal info (16 week-old, male obese ZSF1 rats); Blood pressure measured via tail-cuff plethysmography; 139 mmHg - 182 mmHg; diabetes;

Q10317: H. Huang, *et al.* Liraglutide via Activation of AMP-Activated Protein Kinase-Hypoxia Inducible Factor-1alpha-Heme Oxygenase-1 Signaling Promotes Wound Healing by Preventing Endothelial Dysfunction in Diabetic Mice. *Frontiers in Physiology* 2021;12(660263

Agents: Liraglutide; Compound C; 2-methoxyestradiol **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;

ALZET Comments: Dose: Lira (200 µg/kg/day); Cpd C (1.5 mg/kg/day); 2-ME (40 mg/kg/day); Controls received mp w/ vehicle; animal info: 8-week-old mice Diabetic db/db mice; dependence;



Q10190: S. Hu, *et al.* Upregulated LRRC55 promotes BK channel activation and aggravates cell injury in podocytes. *Journal of Experimental Medicine* 2021;218(3):

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose: Angiotensin II (1,000 ng/kg/min); Controls received mp w/ vehicle; animal info: C57BL/6 10–12 wk;

Q9214: M. Dixit, *et al.* Skeletal Response to Insulin in the Naturally Occurring Type 1 Diabetes Mellitus Mouse Model. *JBMR Plus* 2021;5(5):e10483

Agents: Humulin R **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;

ALZET Comments: Dose (0.25 U/day); animal info (female autoimmune-prone NOD mice, 12 to 14 weeks old); diabetes;

Q10375: U. Dischinger, *et al.* Roux-en-Y Gastric Bypass and Caloric Restriction but Not Gut Hormone-Based Treatments Profoundly Impact the Hypothalamic Transcriptome in Obese Rats. *Nutrients* 2021;14(1):

Agents: PYY3-36 **Vehicle:** Saline, isotonic; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** Not Stated;

ALZET Comments: Dose (0.1 mg/kg/day); Controls received mp w/ vehicle; animal info (Adult; Male; 9–10 weeks old; 329 g);

Q9201: A. A. da Silva, *et al.* Chronic CNS-mediated cardiometabolic actions of leptin: potential role of sex differences. *American Journal of Physiology Regulatory, Integrative Comparative Physiology* 2021;320(2):R173–R181

Agents: Leptin **Vehicle:** Not Stated; **Route:** IP; **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Dose (0.62 ug/h); animal info (male and female Sprague-Dawley rats, 12 weeks old); Blood pressure measured via BP telemeter device; 95 mmHg - 110 mmHg; peptides; diabetes;

Q10146: K. W. Cheung, *et al.* Analysis of the retinal capillary plexus layers in a murine model with diabetic retinopathy: effect of intravitreal injection of human CD34(+) bone marrow stem cells. *Annals of Translational Medicine* 2021;9(15):1273

Agents: Rapamycin; Tacrolimus **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** Not Stated;

ALZET Comments: Dose: (1 µg/g/day) Rapamycin; Tacrolimus; Controls received mp w/ vehicle; animal info :Male Six-week-old C57BL/6J; Tacrolimus aka (FK506); diabetes; Diabetic retinopathy

Q10123: K. J. Bubb, *et al.* beta 3 Adrenergic Receptor Stimulation Promotes Reperfusion in Ischemic Limbs in a Murine Diabetic Model. *Frontiers in Pharmacology* 2021;12(666334)

Agents: CL 316,243 **Vehicle:** Saline; **Route:** IP; **Species:** Mice; **Pump:** 1002; 1004; **Duration:** 14; 28 days;

ALZET Comments: Dose CL316,243 (1 mg/kg/day); animal info: C57BL6/J mice 8–10 weeks of age; C57BL6/J mice 6–8 weeks of age; post op. care: (Carprofen, 5 mg/kg sc); Compound aka: CL316,243 is a β₃-adrenoceptor agonist; ischemia (Hind limb); cardiovascular; diabetes; "Following randomization 1 control mouse allocated to vehicle treatment died during a procedure due to equipment failure and 1 diabetic mouse randomized to the CL 316,243 group did not recover from surgery. (see pg.3); "

Q10417: J. M. Brown, *et al.* Role of hypothalamic MAPK/ERK signaling and central action of FGF1 in diabetes remission. *iScience* 2021;24(9):102944

Agents: UO126 **Vehicle:** DMSO; **Route:** CSF/CNS; **Species:** Mice; **Pump:** 1003D; **Duration:** 24 hours;

ALZET Comments: Dose: (30 mM); Controls received mp w/ vehicle; animal info: Male mice, 8-week-old C57BL/6J (WT) post op. care: buprenorphine hydrochloride for pain relief and were allowed to recover for one week prior to the study; UO126 is a selective MAPK inhibitor Brain coordinates (LV: 0.7 mm posterior to bregma; 1.3 mm lateral, and 1.3 mm below the skull surface and 3V: -1.8 mm posterior to bregma; mid-line and -4.3 mm below the skull surface); diabetes

Q10105: A. Benardeau, *et al.* Runcaciguat, a novel soluble guanylate cyclase activator, shows renoprotection in hypertensive, diabetic, and metabolic preclinical models of chronic kidney disease. *Naunyn Schmiedeberg's Archives of Pharmacology* 2021;394(12):2363–2379

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose: Ang II (450 ng/min/kg.); Controls received mp w/ vehicle; animal info (male SD rats (Harlan) were weighing ca. 260 g; Blood pressure measured via tail-cuff method; Recorded blood pressure (see pg 2367); cardiovascular; diabetes; Kidney disease; In essence, and as summarized in Fig. 12, the sGC activator runcaciguat has shown significant benefits and efficacy in (hypertensive and diabetic) preclinical CKD models with progressive proteinuria. These data are suggesting a treatment benefit of runcaciguat in patients with diabetic and hypertensive CKD.



Q10104: R. M. B. Bell, *et al.* Carbonyl reductase 1 amplifies glucocorticoid action in adipose tissue and impairs glucose tolerance in lean mice. *Molecular Metabolism* 2021;48(10):1225

Agents: Dexamethasone; Aldosterone; 20b-DHB **Vehicle:** DMSO; Propylene glycol; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days;

ALZET Comments: Dose: 20b-DHB(20 ug/day); animal info (C57BL/6J Male, Female (8 weeks of age); Dihydrocorticosterone aka (20b-DHB) is a full agonist of the mineralocorticoid receptor.; Mifepristone is a GR antagonist RU486; Spironolactone is a MR antagonist; Carbonyl reductase 1 (Cbr1), is an enzyme inhibitor; diabetes; obesity

Q9853: Y. Zhang, *et al.* Ultraconserved element uc.333 increases insulin sensitivity by binding to miR-223. *Aging* 2020;

Agents: Interleukin-6; Tumor necrosis factor, alpha **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days;

ALZET Comments: Dose (16 ug/mL Interleukin-6; 16 ug/mL Tumor necrosis factor, alpha); animal info (8-week-old C57BL/6 mice); Interleukin-6 aka IL-6; Tumor necrosis factor, alpha aka TNF- α ; diabetes;

Q9511: T. H. Turner, *et al.* Identification of synergistic drug combinations using breast cancer patient-derived xenografts. *Scientific Reports* 2020;10(1):1493

Agents: YM-155 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** 7 days;

ALZET Comments: Dose (5 mg/kg); Controls received mp w/ vehicle; animal info (female non-obese diabetic severe combined immunodeficient gamma (NSG) mice); dependence;

Q9968: S. Tokumoto, *et al.* Generation and Characterization of a Novel Mouse Model That Allows Spatiotemporal Quantification of Pancreatic beta-Cell Proliferation. *Diabetes* 2020;69(11):2340-2351

Agents: Insulin Receptor Antagonist **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (8 weeks old, RIP-Cre); Insulin Receptor Antagonist aka S961; diabetes;

Q8333: M. Stanley M Chen Cardenas, Larissa A Shimoda, PhD, Naresh M Punjabi, MD, PhD. SUN-LB121 Nifedipine Worsens Glucose Tolerance in C57BL/6J Mice Exposed to Intermittent Hypoxia. *Journal of the Endocrine Society* 2020;

Agents: Nifedipine **Vehicle:** PEG 400; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 5 days;

ALZET Comments: Dose (20 mg/kg/day); animal info (Adult male C57BL6/J mice (age 19-week-old)); Nifedipine aka L-type CCB; diabetes;

Q8956: H. Singh, *et al.* Gut Microbial Changes in Diabetic db/db Mice and Recovery of Microbial Diversity upon Pirfenidone Treatment. *Microorganisms* 2020;8(9):

Agents: Cholecystokinin **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose (1 ug/kg/hr or 5 ug/kg/hr); 0.9% Saline used; Controls received mp w/ vehicle; animal info (Male);

Q9469: Y. Shi, *et al.* RIPK3 blockade attenuates tubulointerstitial fibrosis in a mouse model of diabetic nephropathy. *Scientific Reports* 2020;10(1):10458

Agents: Dabrafenib **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 24 weeks;

ALZET Comments: Dose (16.7 mg/ml, 0.15 μ l/hr); Controls received mp w/ vehicle; animal info (6-8-week-old male mice, weighing 20-25 g); long-term study; diabetes;

Q9463: X. Shi, *et al.* MiR-144-5p limits experimental abdominal aortic aneurysm formation by mitigating M1 macrophage-associated inflammation: Suppression of TLR2 and OLR1. *Journal of Molecular and Cellular Cardiology* 2020;143(1-14)

Agents: Oligodeoxynucleotide, phosphorothioate; Oligodeoxynucleotide, phosphorothioate antisense **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; Rat; **Pump:** Not Stated; **Duration:** 14 days;

ALZET Comments: Dose (90 ng/g of body weight/day); animal info (8-week-old male C57BL/6 mice, 21-26 g; rats, 200-250 g);



Q9810: E. B. Randi, *et al.* The Antioxidative Role of Cytochrome in Podocytes: Implications for a Role in Chronic Kidney Disease. *Antioxid Redox Signal* 2020;32(16):1155-1171

Agents: Fluorescein isothiocyanate-sinistrin **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: Dose (0.25 ul/hr/day); animal info (18 weeks old); Fluorescein isothiocyanate-sinistrin aka FITC-sinistrin ; diabetes;

Q9418: I. Polina, *et al.* Differential effects of low-dose sacubitril and/or valsartan on renal disease in salt-sensitive hypertension. *American Journal of Physiology Renal Physiology* 2020;319(1):F63-F75

Agents: Sacubitril; Valsartan **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 3 days;
ALZET Comments: Dose (75 u?g/day); Controls received mp w/ vehicle; animal info (Male Dahl SS rats, 7 wk of age); Blood pressure measured via tail-cuff plethysmography;155.8 mmHg - 176.0 mmHg; diabetes;

Q9808: R. J. Perry, *et al.* Glucagon stimulates gluconeogenesis by INSP3R1-mediated hepatic lipolysis. *Nature* 2020;579(7798):279-283

Agents: Glucagon **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 4 weeks;
ALZET Comments: Dose (0.15 ng/min); animal info (Sprague Dawley, 300 g, Male); diabetes;

Q10300: D. Patinha, *et al.* Adenosine A2A and A3 Receptors as Targets for the Treatment of Hypertensive-Diabetic Nephropathy. *Biomedicines* 2020;8(11):

Agents: CADO; DPSPX **Vehicle:** Not Stated; **Route:** IP; **Species:** Rat; **Pump:** 2ML1; **Duration:** 7 days;
ALZET Comments: Dose: CADO (5 mg/kg/d); DPSPX (90 ug/kg/h); Controls received mp w/ vehicle; animal info: Male spontaneously hypertensive rats (SHR; 12 weeks old; Blood pressure measured via: pressure transducer to measure intra-arterial systolic blood pressure114 mmHg -143 mmHg; CADO aka (2-chloroadenosine) is a non-selective agonist of adenosine receptors; DPSPX (1,3-dipropyl-8-sulfophenylxanthine) is a non-selective agonist of adenosine receptors; cardiovascular: hypertension; diabetes; diabetic nephropathy

Q8925: M. Otto, *et al.* 12(S)-HETE mediates diabetes-induced endothelial dysfunction by activating intracellular endothelial cell TRPV1. *The Journal of Clinical Investigation* 2020;130(9):4999-5010

Agents: V1-Cal **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 4 days;
ALZET Comments: Dose (1mg/kg/d); animal info (male and female 6-8 week-old mice); V1-cal aka TRPV1 inhibitor; peptides; diabetes;

Q10050: N. Osaka, *et al.* Anti-inflammatory and atheroprotective properties of glucagon. *Diabetes & Vascular Disease Research* 2020;17(5):1479164120965183

Agents: Glucagon **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;
ALZET Comments: Dose (138 or 413 nmol/kg/day); Controls received mp w/ vehicle; animal info (Male ApoE-/- mice, 6 weeks old); pumps replaced every 2 weeks; Blood pressure measured via tail-cuff method;103 mmHg - 115 mmHg; Resultant plasma level (81 mg/dl Plasma glucose); diabetes;

Q8908: X. Ni, *et al.* C-peptide and islet transplantation improve glomerular filtration barrier in diabetic nephropathy rats. *Transplant Immunology* 2020;62(101322

Agents: C-peptide **Vehicle:** Saline; **Route:** Abdomen; **Species:** Rat; **Pump:** 2ML4; **Duration:** 4 weeks;
ALZET Comments: Dose (50 pmol/kg/min); Controls received mp w/ vehicle; animal info (male Sprague-Dawley rats, 180-200 g); diabetes;

Q9385: N. Nalin, *et al.* Effect of angiotensin II on diabetic glomerular hyperpermeability: an in vivo permeability study in rats. *American Journal of Physiology Renal Physiology* 2020;319(5):F833-F838

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 7 days;
ALZET Comments: Dose (200 ng/kg/min); 0.9% Saline used; Controls received mp w/ vehicle; animal info (Male Wistar rats, 200-250 g); Blood pressure measured via tail-cuff method; diabetes;



Q8654: R. J. Marshall, *et al.* Glycemic Variability in Diabetes Increases the Severity of Influenza. *mBio* 2020;11(2):

Agents: Glucose **Vehicle:** PBS; **Route:** IP; **Species:** Mice; **Pump:** Not Stated; **Duration:** 15 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (C57BL/6 mice); diabetes;

Q8653: Z. Maria, *et al.* Insulin Treatment Reduces Susceptibility to Atrial Fibrillation in Type 1 Diabetic Mice. *Frontiers in Cardiovascular Medicine* 2020;7(134)

Agents: Insulin, humulin R **Vehicle:** Citrate buffer; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 7 days;

ALZET Comments: Dose (0.5 U/mouse/day); Controls received mp w/ vehicle; animal info (Male FVBN/J mice, 8-10 weeks old); diabetes;

Q8651: A. Maqbool, *et al.* Divergent effects of genetic and pharmacological inhibition of Nox2 NADPH oxidase on insulin resistance-related vascular damage. *American Journal of Physiology-Cell Physiology* 2020;319(1):C64-C74

Agents: Peptide, Gp91ds-tat **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;

ALZET Comments: Dose (10 mg/kg/day); animal info (Mice, 8 weeks old); pumps replaced every 4 weeks;

Q10231: X. Li, *et al.* Mechanisms by which adiponectin reverses high fat diet-induced insulin resistance in mice. *Biological Sciences* 2020;117(51):32584-32593

Agents: Adiponectin, recombinant mouse globular; Adiponectin, recombinant mouse full-length **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 14 days;

ALZET Comments: Dose: (globular 2.5 ug/d; full-length 10 ug/d); Controls received mp w/ vehicle; animal info: Male C57BL/6J mice; adiponectin aka (abcam)diabetes;

Q8217: T. Katahira, *et al.* Conversion of pancreatic alpha cells into insulin-producing cells modulated by beta-cell insufficiency and supplemental insulin administration. *Biochem Biophys Res Commun* 2020;521(1):178-183

Agents: Insulin **Vehicle:** Saline; **Route:** Not stated; **Species:** Mice; **Pump:** Not stated; **Duration:** 2 weeks;

ALZET Comments: Controls received mp w/ vehicle; animal info (C57BL/6J male mice, 6 or 7 weeks of age); diabetes;

Q8861: L. B. James-Allan, *et al.* Regulation of glucose homeostasis by small extracellular vesicles in normal pregnancy and in gestational diabetes. *FASEB Journal* 2020;34(4):5724-5739

Agents: Small extracellular vesicles, human **Vehicle:** PBS; **Route:** IV (right jugular vein); **Species:** Mice; **Pump:** 1003D; **Duration:** 4 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (Nonpregnant female C57BL/6 mice); human small extracellular vesicles aka human sEVs; diabetes;

Q8545: R. Hu, *et al.* miR-196b-5p-enriched extracellular vesicles from tubular epithelial cells mediated aldosterone-induced renal fibrosis in mice with diabetes. *BMJ Open Diabetes Res Care* 2020;8(1):

Agents: Aldosterone **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (0.4 mg/kg/day); Controls received mp w/ vehicle; animal info (db/db mice, 10 weeks old); Blood pressure measured via tail cuff method; diabetes;

Q10185: M. Holecek, *et al.* Dual Effects of Beta-Hydroxy-Beta-Methylbutyrate (HMB) on Amino Acid, Energy, and Protein Metabolism in the Liver and Muscles of Rats with Streptozotocin-Induced Type 1 Diabetes. *Biomolecules* 2020;10(11):

Agents: Beta-hydroxy-beta-methyl butyrate **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 7 days;

ALZET Comments: Dose: HMB (200 mg/kg/day) Controls received mp w/ vehicle; animal info: Male Wistar rats, weighing approximately 200g Beta-hydroxy-beta-methyl butyrate aka (HMB)diabetes;

Q8521: A. P. Gupta, *et al.* Pancreastatin inhibitor PSTi8 protects the obesity associated skeletal muscle insulin resistance in diet induced streptozotocin-treated diabetic mice. *European Journal of Pharmacology* 2020;881(173204)

Agents: Pancreastatin inhibitor **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose (1 mg/kg); Controls received mp w/ vehicle; animal info (male C57BL/6 male mice, 20 ± 2 g); Pancreastatin inhibitor aka PSTi8; diabetes;



Q8513: P. K. Govindappa, *et al.* Targeting exosome-associated human antigen R attenuates fibrosis and inflammation in diabetic heart. *FASEB Journal* 2020;34(2):2238-2251

Agents: Angiotensin II **Vehicle:** Saline; **Route:** Not stated; **Species:** Mice; **Pump:** Not stated; **Duration:** 28 days;
ALZET Comments: Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (8-week-old C57BL/6J mice);

Q8730: P. Gao, *et al.* Activation of Transient Receptor Potential Channel Vanilloid 4 by DPP-4 (Dipeptidyl Peptidase-4) Inhibitor Vildagliptin Protects Against Diabetic Endothelial Dysfunction. *Hypertension* 2020;75(1):150-162

Agents: Exendin 9-39 **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** 2 weeks;
ALZET Comments: Dose (150 pmol/kg/min); 4% DMSO used; Controls received mp w/ vehicle; animal info (6 weeks old, Male, C57BL/6, TRPV4 -/-, 18-22 g); diabetes;

Q8476: R. R. Gaddam, *et al.* Genetic deletion of miR-204 improves glycemic control despite obesity in db/db mice. *Biochemical and Biophysical Research Communications* 2020;532(2):167-172

Agents: miR-204 **Vehicle:** Not stated; **Route:** Not stated; **Species:** Mice; **Pump:** 2006; **Duration:** 6 weeks;
ALZET Comments: Dose (0.7 mg/kg/day); animal info (male and female C57BL/6 mice); diabetes;

Q10162: J. J. Fuster, *et al.* TET2-Loss-of-Function-Driven Clonal Hematopoiesis Exacerbates Experimental Insulin Resistance in Aging and Obesity. *Cell Reports* 2020;33(4):108326

Agents: MCC950 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 6 weeks;
ALZET Comments: Dose (10 mg/kg/day); Controls received mp w/ vehicle; animal info: 10 week-old unconditioned (i.e., non-irradiated) C57BL/6 Pep Boy CD45; pumps replaced at week 10; MCC950 is a specific NLRP3 blocker; diabetes; Type 2 diabetes

Q10160: D. Fujimoto, *et al.* Suppressed ER-associated degradation by intraglomerular cross talk between mesangial cells and podocytes causes podocyte injury in diabetic kidney disease. *FASEB Journal* 2020;34(11):15577-15590

Agents: Eylestatin I **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 14 days;
ALZET Comments: Dose: (1 mg/kg/day); animal info: Type 2 obese diabetic db/db (BKS.Cg-+ Leprdb/+ Leprdb/Jcl) mice and lean control db/m (BKS.Cg-m +/+ Leprdb/Jcl) mice. Eight week-old male mice; diabetes;

Q9787: S. N. Framnes-DeBoer, *et al.* Bromocriptine improves glucose tolerance independent of circadian timing, prolactin, or the melanocortin-4 receptor. *American Journal of Physiology Endocrinology and Metabolism* 2020;318(1):E62-E71

Agents: Bromocriptine **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 2 weeks;
ALZET Comments: Dose (8 mg/kg/day); Controls received mp w/ vehicle; animal info (9-17 weeks old, C57BL/6J); diabetes;

Q8449: F. P. Dominici, *et al.* Activation of AT2 receptors prevents diabetic complications in female db/db mice by NO-mediated mechanisms. *British Journal of Pharmacology* 2020;177(20):4766-4781

Agents: Compound 21 **Vehicle:** Saline, sterile; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 4 weeks;
ALZET Comments: Dose (0.3 mg/kg/day); Controls received mp w/ vehicle; animal info (16-week-old db/db female mice); Compound 21 aka C21; diabetes;

Q8424: H. S. Choi, *et al.* Angiotensin-[1-7] attenuates kidney injury in experimental Alport syndrome. *Scientific Reports* 2020;10(1):4225

Agents: Ang (1-7) **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 3 weeks;
ALZET Comments: Dose (25 ug/kg/hour); Controls received mp w/ vehicle; animal info (WT and Col4a3-/- mice, 4 weeks); Angiotensin (1-7) aka Ang (1-7); peptides; kidney disease; diabetes

Q8401: P. V. Carapeto, *et al.* Effects of Y1 receptor agonist on the pancreatic islet of diet-induced obese and diabetic mice. *Journal of Diabetes and Its Complications* 2020;34(9):107669

Agents: [Leu31, Pro34]-PYY **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: Dose (300 µg/Kg/day); Controls received mp w/ vehicle; animal info (Three-months-old male C57BL/6J mice); [Leu31, Pro34]-PYY aka NPYR1; diabetes;



Q8393: F. Brial, *et al.* The Natural Metabolite 4-Cresol Improves Glucose Homeostasis and Enhances beta-Cell Function. *Cell Reports* 2020;30(7):2306-2320 e5

Agents: 4-Cresol; 4-Methylcatechol **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: 0.9% NaCl used; Controls received mp w/ vehicle; animal info (six-week old C57BL/6J male mice); diabetes;

Q8385: M. A. Bentsen, *et al.* Transcriptomic analysis links diverse hypothalamic cell types to fibroblast growth factor 1-induced sustained diabetes remission. *Nature Communications* 2020;11(1):4458

Agents: SHU9119 **Vehicle:** Saline; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Pump:** Not stated; **Duration:** 4 weeks;

ALZET Comments: Dose (5 nmol/day); Controls received mp w/ vehicle; animal info (male mice, 6-8 weeks old); SHU9119 aka melanocortin receptor antagonist; Brain coordinates (−0.7 mm posterior to bregma; 1.3 mm lateral, and 1.3 mm below the skull surface); diabetes;

Q8334: S. Aoyama, *et al.* Rubicon in pancreatic beta cells plays a limited role in maintaining glucose homeostasis following increased insulin resistance. *Endocr J* 2020;67(11):1119-1126

Agents: S961 **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 1 week;

ALZET Comments: Dose (20 nmol per week); animal info (6 week old MIP-Cre-ERT mice); S961 aka insulin receptor antagonist; diabetes;

Q8688: C. Amouyal, *et al.* A surrogate of Roux-en-Y gastric bypass (the enterogastro anastomosis surgery) regulates multiple beta-cell pathways during resolution of diabetes in ob/ob mice. *EBioMedicine* 2020;58(102895

Agents: Exendin (9-39) **Vehicle:** Saline; **Route:** IP; **Species:** Mice; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Dose (2 pmol/kg/min); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (Twelve-week-old ob/ob mice); diabetes;

Q9135: S. Ali, MD, *et al.* Elevated Testosterone Secondary to Leydig Cell Hyperplasia in Bilateral Ovaries. *Journal of the Endocrine Society* 2020;

Agents: Nifedipine **Vehicle:** PEG 400; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 5 days;

ALZET Comments: Dose (20 mg/kg/day); Controls received mp w/ vehicle; animal info (Adult male C57BL6/J mice (age 19-week- old)); Nifedipine aka L-type CCB; diabetes;