References on the Administration of Somatostatin Using ALZET® Osmotic Pumps

Q9302: Y. Kawakami, *et al.* Superiority of Somatostatin Analog in Comparison With Drugs for Treating Pancreatic Fistula in Rats. International Surgery 2020;
Agents: Mesilate, Gabexate; Imipenem; Somatostatin **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML1; **Duration:** 3 days;
ALZET Comments: Dose (10 mg/kg/day Gabexate Mesilate; 16 mg/kg/day Imipenem; 5 µg/kg/day Somatostatin); Controls received mp w/ vehicle; animal info (Eight-week-old male Sprague-Dawley rats, 260-280 g); dependence;

R0355: J. Morisset. Somatostatin: One of the Rare Multifunctional Inhibitors of Mammalian Species. Pancreas 2017;46(1):8-18
Agents: Somatostatin **Vehicle:** Not Stated; **Route:** SC; **Species:** Not Stated; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: When given to rats implanted subcutaneously (sc) with an Alzet mini-pump, somatostatin delivered at 1.5 µg·h−1 for 14 days had no effect on their weight gain. However, the infusion of a somatostatin antagonist led to a significant increase in weight gain over control; Dose (1.5 ug/hour);

Q6581: N. Kuroshima, *et al.* Triple-drug therapy to prevent pancreatic fistula after pancreatectomy in a rat model. Pancreatology 2016;16(5):917-21
Agents: Somatostatin analogue; Gabexate mesilate; Imipenem **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML1;
Duration: 1 week;
ALZET Comments: Dose (5 mg/kg/day of somatostatin analogue, 10 mg/kg/day of gabexate mesilate, and 16.6 mg/kg/day imipenem); animal info (Eight-week-old male Fisher 344 rats weighing 250e300 g); Therapeutic indication (pancreatic fistula);

Q3289: M. A. Caruso, *et al.* Differential regulation of the multiple insulin and insulin receptor mRNAs by somatostatin. MOLECULAR AND CELLULAR ENDOCRINOLOGY 2014;384(1-2):126-133
Agents: Somatostatin, bovine **Vehicle:** Saline; **Route:** IP; **Species:** Fish (trout); **Pump:** Not Stated; **Duration:** 29 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (rainbow trout, juvenile, 120g); 0.75% saline used; no stress (see pg. 128); post op. care (Neosporin); behavioral testing (food intake); diabetes;

P8608: N. M. Very, *et al.* Somatostatin regulates hepatic growth hormone sensitivity by internalizing growth hormone receptors and by decreasing transcription of growth hormone receptor mRNAs. American Journal of Physiology Regulatory, Integrative, and Comparable Physiology 2007;292(5):R1956-R1962
Agents: Somatostatin-14-I **Vehicle:** Saline; **Route:** IP; **Species:** Fish (trout); **Pump:** Not Stated; **Duration:** 15 days;
ALZET Comments: Controls received mp w/ vehicle; functionality of mp verified by plasma levels; peptides; animal info (male, female, juvenile, rainbow trout, 58 grams)

Q7382: N. Very. Somatostatin inhibits growth of rainbow trout. Journal of Fish Biology 2001;59(1):157-165
Agents: somatostatin-14 **Vehicle:** Saline; **Route:** IP; **Species:** Fish (Rainbow trout); **Pump:** pump model not stated; **Duration:** 20 days;
ALZET Comments: Dose (5•8*10^-11 mol/h); 0.75% (w/v) NaCl used; Controls received mp w/ vehicle; animal info (juvenile, male and female, 58.3+/-1.3 g); post op. care (return to 100L tank containing 250 mg erythromycin, fasting for 5 days); Resultant plasma level ((4.4+/-0.2 and 4.2+/-0.3 ng/mL in saline-injected fish), (6.4+/-0.4 and 5.8+/-0.3 ng/mL in SS-14 injected fish, 3h and 6h post-injection)); enzyme inhibitor (GH release from teleost pituitary); good methods (pre- and post-surgery information, location of implantation site, p.158-159); trout received i.p. injection of SS-14 on day 20 of experiment to measure plasma concentration at 3h and 6h post-injection.

P5015: A. Kramer, *et al.* Regulation of daily locomotor activity and sleep by hypothalamic EGF receptor signaling. Science 2001;294(5551):2511-2515
Agents: Transforming growth factor-a; Brain-derived neurotrophic factor; Vasoactive intestinal polypeptide; Peptide, histidine-isoleucine; Gastrin releasing peptide; Substance P; Neuromedin-C; Neurokinin A; Neuropeptide K; Neuropeptide Y; Somatostatin; Antrin; Cholecystokinin; Thyrotropin-releasing hormone; Neurotensin; Neuromedin N; **Vehicle:** CSF, artificial;
Route: CSF/CNS (third ventricle); **Species:** Hamster; **Pump:** 2002; **Duration:** 18,22 days;
ALZET Comments: Peptides

P4924: A. G. de Segura, *et al.* Somatostatin antagonism prevents elemental diet-induced intestinal atrophy in the rat. Digestive Diseases and Sciences 2001;46(9):1985-1992
Agents: Somatostatin antagonist **Vehicle:** Saline; **Route:** IP; **Species:** Rat; **Pump:** 2ML1; **Duration:** 7 days;
ALZET Comments: controls received mp w/ vehicle; functionality of mp verified by plasma drug levels; comparison of sc injections vs. mp; peptides; The somatostatin antagonist is cyclo-7-aminoheptanoyl-phe-d-trp-lys-thr (also known as BZL); SC injections examined pulsatile administration of the agent; pump model 2ML1 used (2001 incorrectly listed);

Q7441: T. Castell, *et al.* Somatostatin blockade improves the proliferative response but not intestinal morphological growth after small bowel resection in rats. BJS 2001;167(1):54-9
Agents: Somatostatin antagonist **Vehicle:** Saline; **Route:** IP; **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;
ALZET Comments: Dose ((3, 30, 300 nmol/kg/min), (161 mg/kg/day)); Controls received sham surgery and mp w/ vehicle; animal info (adult, Wistar, 250-300g); somatostatin antagonist aka cyclo 7-aminoheptanoyl-Phe -D-Trp-Lys-Thr [BZL]; enzyme inhibitor (somatostatin receptor);

P2367: A. Monno, *et al.* Anti-somatostatin antibody enhances the rate of hippocampal kindling in rats. Brain Research 1993;602(1993):148-152
Agents: Antibody, anti-somatostatin; **Vehicle:** PBS; **Route:** CSF/CNS (dorsal hippocampus); **Species:** Rat; **Pump:** 2002; **Duration:** 30 days;
ALZET Comments: pumps replaced at day 14

P1485: G. M. Reaven, *et al.* Somatostatin inhibition of fructose-induced hypertension. Hypertension 1989;14(117-120
Agents: Somatostatin analog **Vehicle:** Saline; **Route:** Not Stated; **Species:** Rat; **Pump:** Not Stated; **Duration:** 7 days;
ALZET Comments: peptides

P1425: P. J. Marie, *et al.* Somatostatin infusion inhibits the stimulatory effect of testosterone on endosteal bone formation in the mouse. Metabolism 1988;37(5):429-435
Agents: Octreotide; Somatostatin; Testosterone propionate **Vehicle:** Propylene glycol; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 10 days;
ALZET Comments: Concomitant infusion of T and SMS from 2 pumps implanted simultaneously; functionality of mp verified after delivery; peptides; somatostatin analog

P1943: A. M. Stanisz, *et al.* The role of vasoactive intestinal peptide and other neuropeptides in the regulation of the immune response in vitro and in vivo. Annals of the New York Academy of Sciences 1987;527(478-485
Agents: Somatostatin; Substance P; Vasoactive intestinal peptide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days;
ALZET Comments: Immunology; peptides

P1029: F. C. Buonomo, *et al.* Effects of somatostatin immunoneutralization on growth and endocrine parameters in chickens. Domestic Animal Endocrinology 1987;4(3):191-200
Agents: Antibody, somatostatin **Vehicle:** Saline; Serum, goat; **Route:** SC; **Species:** Bird (chicken); **Pump:** 2002; **Duration:** 2 weeks;
ALZET Comments: Controls received mp w/ saline or goat serum; comparison of bolus inject. vs. IV inject. vs. mp infusion; immunology; peptides

P0967: Y. Takahashi, *et al.* Effects of continuous infusions of TRH and GIF on circadian rhythm parameters of sleep, ambulation, eating, and drinking in rats. In 'Endogenous Sleep Substances and Sleep Regulation,' S. Inoue and A. A. Borbely (eds.), Taniguchi Symposia on Brain Sciences 1984;8(Ch. 9):101-112
Agents: Somatostatin; Thyrotropin-rel. factor **Vehicle:** Saline; **Route:** CSF/CNS; SC; **Species:** Rat; **Pump:** 2001; **Duration:** Not Stated;
ALZET Comments: mp connected to cannula in ventricle; half-life; rats infused sc and icv simultaneously; stability of agents discussed; peptides

P0430: D. P. Rose*, et al.* Rat mammary carcinoma regressions during suppression of serum growth hormone and prolactin. Anticancer Research 1983;3(323-326
Agents: L-362823; Somatostatin **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 1 week;
ALZET Comments: comparison of agents effects; simultaeous admin. of pergolide mesylate; cancer hormone therapy; peptides

P0358: L. A. Gavin*, et al.* Glucagon does not modulate the alterations in T3 metabolism consequent to dietary manipulation and diabetes. Diabetes 1983;32(798-803
Agents: Glucagon; Somatostatin; Thyroxine **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 2, 3 days;
ALZET Comments: Separate pumps delivering glucagon and somatostatin were implanted simultaneously in same rat; peptides

P0243: S. J. K. Holmes*, et al.* The effect of somatostatin on postresectional ileal hyperplasia. Endocrinology 1982;111(4):1397-1399
Agents: Somatostatin **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** Not Stated;
ALZET Comments: no comment posted

R0055: S. R. Bloom*, et al.* The hormonal pattern of intestinal adaptation: a major role for entroglucagon. In 'Basic Science in Gastroenterology: Structure of the Gut,' J. M. Polak, S. R. Bloom, N. A. Wright, and M. J. Daly (eds.), Glaxo Group Research Limited, Ware, UK 1982;409-419
Agents: Bombesin; Somatostatin **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** Not Stated;
ALZET Comments: Comparison of agents effects; see p416-417 for mp experiment; peptides