



**References) on the Administration of Melanocyte Stimulating Hormone
Using ALZET® Osmotic Pumps**

Q7341: K. Hubbard, *et al.* Chronic High-Fat Diet Exacerbates Sexually Dimorphic Pomctm1/tm1 Mouse Obesity. *Endocrinology* 2019;160(5):1081-1096

Agents: Melanocyte Stimulating Hormone, alpha; Melanocyte Stimulating Hormone, desacetyl-alpha **Vehicle:** Saline; **Route:** Not Stated; **Species:** Mice; **Pump:** 1002; **Duration:** 14 Days;

ALZET Comments: Dose (5 mg /25 g body weight/day for both peptides); Controls received mp w/ vehicle; animal info (Pomc mutation mice, ~21-22 weeks old); Melanocyte Stimulating Hormone aka MSH; peptides; Obesity;

Q6184: M. Szokol, *et al.* Long Term Osmotic Mini Pump Treatment with Alpha-MSH Improves Myocardial Function in Zucker Diabetic Fatty Rats. *Molecules* 2017;22(10):

Agents: Melanocyte-stimulating hormone, alpha **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (0.72 ug /h); Controls received mp w/ vehicle; animal info (Zucker Diabetic Fatty rats); diabetes;

Q6266: R. G. Feichtinger, *et al.* Effects of alpha-melanocyte-stimulating hormone on mitochondrial energy metabolism in rats of different age-groups. *Neuropeptides* 2017;64(123-130)

Agents: Melanocyte-stimulating hormone, a- **Vehicle:** Saline, pyrogen free; **Route:** CSF/CNS (lateral ventricle); **Species:** Rat; **Pump:** Not Stated; **Duration:** 7 days;

ALZET Comments: Dose (1 µg/µl/h,); Controls received mp w/ vehicle; animal info (Male Wistar rats aged 2, 3, 12 or 24 months); ALZET brain infusion kit used; delayed delivery (12 hours);

Q4074: I. Rostas, *et al.* Age-related alterations in the central thermoregulatory responsiveness to alpha-MSH. *JOURNAL OF THERMAL BIOLOGY* 2015;49-5(9-15)

Agents: Melanocyte-stimulating hormone, alpha **Vehicle:** Not Stated; **Route:** CSF/CNS; **Species:** Rat; **Pump:** Not Stated; **Duration:** Not Stated;

ALZET Comments: ALZET brain infusion kit used; pumps mentioned in introduction and discussion;

Q0718: E. Petervari, *et al.* Central alpha-MSH infusion in rats: Disparate anorexic vs. metabolic changes with aging. *REGULATORY PEPTIDES* 2011;166(1-3):105-111

Agents: Melanocyte stimulating hormone, alpha **Vehicle:** Saline, pyrogen free; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (male, Wistar, 2 mo, 3-4 mo, 12 mo, 24 mo old,); ALZET brain infusion kit used; cannula placement verified macroscopically; 12 hour delayed delivery due to "dead-space of the connecting tube"

Q0246: E. Petervari, *et al.* Age-dependence of alpha-MSH-induced anorexia. *Neuropeptides* 2010;44(4):315-322

Agents: Melanocyte stimulating hormone, alpha **Vehicle:** Saline, pyrogen free; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Controls received mp w/ vehicle; peptides; ALZET brain infusion kit used; animal info (male, Wistar, 6-9 wks old, 3-4, 6, 12, 18, 24 mo old)

P8544: X. P. Ni, *et al.* Prevention of salt-induced hypertension by an analog of gamma-melanocyte-stimulating hormone in the rat. *American Journal of Hypertension* 2007;20(8):862-865

Agents: Melanocyte-stimulating hormone, NDP-g **Vehicle:** Saline, normal; **Route:** SC; **Species:** Rat; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Controls received mp w/ vehicle; no stress (see pg. 863); antihypertensive; cardiovascular; peptides; animal info (male, Sprague-Dawley, 180-210 grams); nephrology

P5708: X. P. Ni, *et al.* Genetic disruption of gamma-melanocyte-stimulationg hormone signaling leads to salt-sensitive hypertension in the mouse. *Journal of Clinical Investigation* 2003;111(8):1251-1258

Agents: Melanocyte-stimulating hormone analogue, a- **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Pump:** 1007D; **Duration:** 1 week;



ALZET Comments: Controls received mp w/ vehicle; peptides; NDP-a-MSH plasma samples taken

P5506: C. Hill, *et al.* The effects of acute and chronic alpha melanocyte stimulating hormone (alpha MSH) on cardiovascular dynamics in conscious rats. *Peptides* 2002;23(9):1625-1630

Agents: Melanocyte stimulating hormone, alpha **Vehicle:** CSF, artificial; **Route:** CSF/CNS; **Species:** Rat; **Pump:** Not Stated; **Duration:** 8 days;

ALZET Comments: Animals allowed to recover for 4-5 days after cannula implantation before pumps implanted

P6245: S. Froidevaux, *et al.* Homologous regulation of melanocortin-1 receptor (MC1R) expression in melanoma tumor cells in vivo. *JOURNAL OF RECEPTOR AND SIGNAL TRANSDUCTION RESEARCH* 2002;22(1-4):111-121

Agents: Melanocyte-stimulating hormone, a- **Vehicle:** Citric Acid; sodium chloride; **Route:** SC; **Species:** Mice (SCID); **Pump:** 1002; **Duration:** 3-14 days;

ALZET Comments: Comparison of IV injections vs. mp; stability verified by HPLC analysis after 2 week peptide incubation @ 37°C; cancer (melanoma); peptides

P1582: S. T., *et al.* A central action of a-melanocyte-stimulating hormone on serum levels of LH and prolactin in rats. *J. Endocrinol* 1990;124(127-132)

Agents: Melanocyte-stimulating hormone, a- **Vehicle:** Not Stated; **Route:** CSF/CNS (median eminence); **Species:** Rat; **Pump:** 2002; **Duration:** no duration posted;

ALZET Comments: peptides

P1284: C. E. E. M. Van der Zee, *et al.* Alpha-MSH and ORG-2766 in peripheral nerve regeneration: different routes of delivery. *Eur. J. Pharmacol* 1988;147(351-357)

Agents: ACTH analog; ORG-2766; Melanocyte-stimulating hormone, a- **Vehicle:** Saline; **Route:** CSF/CNS (sciatic nerve); SC; **Species:** Rat; **Pump:** 2002; **Duration:** 2 weeks;

ALZET Comments: Comparison of oral admin. and admin. by s.c. microspheres; comparison of s.c. injections vs. mp infusion; tissue perfusion (sciatic nerve)

P1082: A. Ganguly, *et al.* Impaired aldosterone secretion from dispersed adrenal capsular cells of chronically alpha-MSH-treated rats. *Steroids* 1986;47(4/5):261-268

Agents: Melanocyte-stimulating hormone, a- **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 5 days;

ALZET Comments: controls received mp w/vehicle; mp model not stated

P0559: Y. Shenker, *et al.* a-Melanocyte-stimulating hormone stimulation of aldosterone secretion in hypophysectomized rats. *Endocrinology* 1985;116(1):138-141

Agents: ACTH (1-24); Dexamethasone disodium phosphate; Melanocyte-stimulating hormone, a-; Thyroxine, l- **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 6 days;

ALZET Comments: comparison of agents effects; replacement therapy (hypophysectomy); peptides

P0522: M. Volosin, *et al.* Evidence for the role of a-MSH in the induction of pseudopregnancy in the rat. *Neuroendocrinology* 1984;39(13-18)

Agents: Melanocyte-stimulating hormone, a- **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 8 days or 32 hours;

ALZET Comments: comparison of injec vs. mp infusion; no stress p. 14; peptides

P0519: K. T. Rodrigues, *et al.* Effects of background adaptation on the pituitary and plasma concentrations of some pro-opiomelanocortin-related peptides in the rainbow trout (*Salmo gairdneri*). *J. Endocrinol* 1984;101(277-284)

Agents: Melanocyte-stimulating hormone, b-; Melanocyte-stimulating hormone, a- **Vehicle:** Saline; **Route:** IP; **Species:** fish; **Pump:** 2002; **Duration:** 4 weeks;

ALZET Comments: comparison of agents effects; plasma assayed by RIA at 28 days to verify mp delivery; delivery rate 0.17 ul/hr at 21C; peptides



P0151: G. J. J. M. van Eys, *et al.* Evidence for a direct role of α -MSH in morphological background adaptation of the skin in *Sarotherodon mossambicus*. *Cell and Tissue Research* 1981;217(361-372

Agents: Melanocyte-stimulating hormone, α - **Vehicle:** Water; **Route:** IP; **Species:** fish; **Pump:** 1701; **Duration:** 10 days;
ALZET Comments: peptides

P0110: W. K. O'Steen, *et al.* Relationship of melanocyte-stimulating hormone to photoreceptor damage. *Peptides* 1980;1(1):19-22

Agents: Melanocyte-stimulating hormone, α - **Vehicle:** Acetic acid; Saline; **Route:** IP; **Species:** Rat; **Pump:** Not Stated;
Duration: 3 weeks;

ALZET Comments: comparison of injections vs. infusion; replacement therapy (hypophysectomy); pump replaced every 5 days for 3 weeks; peptides