



**Recent References (2008-2019) on Angiogenesis Research
Using ALZET® Osmotic Pumps**

- R0372:** J. Hong and C. O. Yun. Relaxin gene therapy: A promising new treatment option for various diseases with aberrant fibrosis or irregular angiogenesis. *Mol Cell Endocrinol* 2019;
ALZET Comments: Relaxin, human recomb.; SC; Rat (pregnant); Dose (2000 ng/h); Resultant plasma level (RLX level close to 0.5 ng/mL); gene therapy;.
- Q7165:** Yanru Zhao¹, Mengwen Yan^{1,2,*}, Chen Chen^{1,*}, Wei Gong^{1,3}, Zhongwei Yin¹, Huaping and J. F. Li¹, Xin A. Zhang⁴, Dao Wen Wang¹ and Houjuan Zuo¹. MiR-124 aggravates failing hearts by suppressing CD151-facilitated angiogenesis in heart. *Oncotarget* 2018;9(18):14382-14396
ALZET Comments: Angiotensin II; SC; Mice; 1004; 28 days; Dose (1.5 mg/kg/day); animal info (Male C57BL/6 mice (22–25 g));.
- Q6336:** M. L. Zhu, Y. L. Yin, S. Ping, H. Y. Yu, G. R. Wan, X. Jian and P. Li. Berberine promotes ischemia-induced angiogenesis in mice heart via upregulation of microRNA-29b. *Clin Exp Hypertens* 2017;39(7):672-679
ALZET Comments: miR-29b antagomir; Mice; 4 weeks; Controls received mp w/ vehicle; animal info (8–12 week-old male C57BL6 mice); cardiovascular;.
- Q5725:** S. Zhao, Z. Zhang, L. Qian, Q. Lin, C. Zhang, J. Shao, F. Zhang and S. Zheng. Tetramethylpyrazine attenuates carbon tetrachloride-caused liver injury and fibrogenesis and reduces hepatic angiogenesis in rats. *Biomed Pharmacother* 2017;86(521-530
ALZET Comments: Angiotensin II; Rat; 2004; 2ML4; 5 weeks; Controls received mp w/ saline; animal info (male, Sprague Dawley, 180-220g); cardiovascular; peptides; Dose (25 ug/kg/hr);.
- Q6470:** A. L. Guan, T. He, Y. B. Shao, Y. F. Chi, H. Y. Dai, Y. Wang, L. Xu, X. Yang, H. M. Ding and S. L. Cai. Role of Jagged1-Hey1 Signal in Angiotensin II-induced Impairment of Myocardial Angiogenesis. *Chin Med J (Engl)* 2017;130(3):328-333
ALZET Comments: Angiotensin II; SC; Mice; 2 weeks; Dose (200 ng/kg/min); animal info (8-week-old male C57BL/6 mice); cardiovascular;.
- Q5811:** L. Feng, Y. Shu, Q. Wu, T. Liu, H. Long, H. Yang, Y. Li and B. Xiao. EphA4 may contribute to microvessel remodeling in the hippocampal CA1 and CA3 areas in a mouse model of temporal lobe epilepsy. *Mol Med Rep* 2017;15(1):37-46
ALZET Comments: unclustered ephrin A5 Fc, clustered (C) ephrin A5 Fc, antibody, IgG; CSF, artificial; CSF/CNS; Mice; 1007D; Controls received mp w/ vehicle; animal info (C57BL/6, 5-6 weeks old) ALZET brain infusion kit 3 used; no stress "All mice survived, and no apparent behavioral discomfort was observed." (see pg. 41); Therapeutic indication (angiogenesis, Temporal lobe epilepsy); Dose (50 ug/mL);.
- Q6017:** N. Clere, K. H. T. To, S. Legeay, S. Bertrand, J. J. Helesbeux, O. Duval and S. Faure. Pro-Angiogenic Effects of Low Dose Ethoxidine in a Murine Model of Ischemic Hindlimb: Correlation between Ethoxidine Levels and Increased Activation of the Nitric Oxide Pathway. *Molecules* 2017;22(4):
ALZET Comments: Ethoxide, glucose; Mice; 2004; 21 days; animal info (8 weeks); 5% glucose; average plasma concentration between 18.34 and 46.97 nM ethoxidine; Therapeutic indication (ischemia; angiogenesis; neovascularization); Dose (0.14 ng/kg).
- Q6321:** S. C. Chen, M. Huang, Q. W. He, Y. Zhang, E. N. Opoku, H. Yang, H. J. Jin, Y. P. Xia and B. Hu. Administration of sonic hedgehog protein induces angiogenesis and has therapeutic effects after stroke in rats. *Neuroscience* 2017;352(285-295
ALZET Comments: Sonic hedgehog protein, Cyclopamine, antibody, anti-VEGF; PBS; CSF/CNS; Rat; 1007D; 7 days; Dose (1 mg/mL Shh, 20 µM Shh plus Cyc, 25 µg/ml Shh plus VEGF antibody); animal info (Male Sprague–Dawley rats); Cyclopamine is a sonic hedgehog protein inhibitor; Brain coordinates (bregma -0.8 mm anteroposterior, ±1.5 mm mediolateral, and -4.5 mm dorsoventral);.



Q5856: M. Goda, S. Takatori, S. Atagi, N. Hashikawa-Hobara and H. Kawasaki. Nerve growth factor facilitates perivascular innervation in neovasculatures of mice. *J Pharmacol Sci* 2016;131(4):251-8

ALZET Comments: Nerve Growth Factor; Saline; SC; IP; Mice; 1003D, 1007D, 1002; 3 days, 7 days, 10 days, 14 days; Controls received mp w/ vehicle; Therapeutic indication (Angiogenesis);

Q6037: Q. Duan. Deregulation of XBP1 expression contributes to myocardial vascular endothelial growth factor-A expression and angiogenesis during cardiac hypertrophy in vivo. *Aging Cell* 2016;

ALZET Comments: Isoproterenol hydrochloride; Mice; 1007D, 1002; 2 weeks; Controls received sham surgery; animal info (C57BL/6, 8 weeks old); Therapeutic indication (ER stress, Heart failure); Dose (15 mg/kg/day);

Q5311: L. Chen, G. Joseph, F. F. Zhang, H. Nguyen, H. Jiang, K. H. Gotlinger, J. R. Falck, J. Yang, M. L. Schwartzman and A. M. Guo. 20-HETE contributes to ischemia-induced angiogenesis. *Vascul Pharmacol* 2016;83(57-65)

ALZET Comments: DDMS; 6,15-20-HEDGE; Intramuscular (hindlimb gracilis); Mice; 2002, 2004; 32 days; Controls received mp w/ vehicle; animal info (Balb/c mice, 12 wk old); functionality of mp verified by blood pressure and blood perfusion scans; dose-response (pg. 61); good methods (pg. 58); ischemia (peripheral); tissue perfusion (intramuscular); Polyethylene catheter tubing used (inner ID 0.8 mm); Dose (5 mg/kg/day);

Q4886: Y. S. B. X. Q. W. T. L. Y. D. & and H. T. S. C. L. F. L. L. Y. Li. The Ephrin-A5/EphA4 Interaction Modulates Neurogenesis and Angiogenesis by the p-Akt and p-ERK Pathways in a Mouse Model of TLE. *MOLECULAR NEUROBIOLOGY* 2016;53(561-576)

ALZET Comments: Ephrin-A5-Fc; immunoglobulin G2A; CSF, artificial; CSF/CNS (hippocampus); Mice; 1007D; 7 days; Controls received mp w/ vehicle; animal info (male, C57BL6, 18-21g, 5-6 weeks old); ALZET brain infusion kit used; no stress (see pg. 563) All mice survived the operation, remained active, ate well, and appeared to be well groomed.; behavioral testing (seizure frequency); Cannula placement verified via histological analysis; pumps primed in 37C PBS overnight; used dentyl acrylic;

Q4538: S. Morita, E. Furube, T. Mannari, H. Okuda, K. Tatsumi, A. Wanaka, S. Miyata and S. Miyata. Vascular endothelial growth factor-dependent angiogenesis and dynamic vascular plasticity in the sensory circumventricular organs of adult mouse brain. *CELL AND TISSUE RESEARCH* 2015;359(865-884)

ALZET Comments: Ara-C; Saline; CSF/CNS; Mice; 2002; 10 days; Controls received mp w/ vehicle; animal info (male, C57BL6J, adult, P70-P84); comparison of IP injection vs mp; cardiovascular; "This infusion method is effective for suppressing cell proliferation in the subventricular zone and minimizes surgery damage to brain tissues" pg 867;

Q4241: Y. Minami, T. Sasaki, H. Bochimoto, J. Kawabe, S. Endo, Y. Hira, T. Watanabe, S. Okumura, N. Hasebe, Y. Ohsaki and T. Sasaki. Prostaglandin 12 analog suppresses lung metastasis by recruiting pericytes in tumor angiogenesis.

INTERNATIONAL JOURNAL OF ONCOLOGY 2015;46(548-554)

ALZET Comments: Betaprost sodium; SC; Mice; 3 weeks; Controls received mp w/ water, distilled; animal info (female, C57BL6, 8-10 weeks old, 20-25g); cancer (lung); Betaprost sodium aka BPS; Betaprost sodium is a stable PGI2 analog;

Q5225: Y. Liu, B. Li, X. Wang, G. Li, R. Shang, J. Yang, J. Wang, M. Zhang, Y. Chen, Y. Zhang, C. Zhang and P. Hao. Angiotensin-(1-7) Suppresses Hepatocellular Carcinoma Growth and Angiogenesis via Complex Interactions of Angiotensin II Type 1 Receptor, Angiotensin II Type 2 Receptor and Mas Receptor. *Mol Med* 2015;21(626-36)

ALZET Comments: Angiotensin (1-7), A-779, PD123319; saline; SC; mice; 21 days; Controls received mp w/ vehicle; animal info: Male BALB/c mice (6-8 wks old); functionality of mp verified by measurement of tumor volumes; cancer (Hepatocellular Carcinoma); peptides; Dose: (200 ng/kg/min) Ang-(1-7), (800 ng/kg/min) Ang-(1-7), (800 ng/kg/min) A779, (10 mg/kg/day) PD123319.

Q4501: J. Liu, G. H. Deng, J. Zhang, Y. Wang, X. Y. Xia, X. M. Luo, Y. T. Deng, S. S. He, Y. Y. Mao, X. C. Peng, Y. Q. Weil, Y. Jiang and Y. Jiang. The effect of chronic stress on anti-angiogenesis of sunitinib in colorectal cancer models.

PSYCHONEUROENDOCRINOLOGY 2015;52(130-142)

ALZET Comments: Norepinephrine bitartrate hydrate; propranolol; Ascorbic acid; PBS; SC; Mice; 1004; 20 days; Animal info (female, BALB/c, 5-7 weeks old); cancer (colorectal carcinoma, human);



Q3977: Y. C. Lim, M. P. Bhatt, M. H. Kwon, D. Park, S. Na, Y. M. Kim, K. S. Ha and K. S. Ha. Proinsulin C-Peptide Prevents Impaired Wound Healing by Activating Angiogenesis in Diabetes. *Journal of Investigative Dermatology* 2015;135(269-278)
ALZET Comments: C-peptide; PBS; SC; Mice; 2004; 2 weeks; Controls received sham surgery; animal info (male, C57BL6J, 6 weeks old, streptozotocin induced diabetes); cardiovascular; peptides; diabetes;.

Q4457: J. Z. Hu, L. Zeng, J. H. Huang, G. Wang, H. B. Lu and H. B. Lu. miR-126 promotes angiogenesis and attenuates inflammation after contusion spinal cord injury in rats. *BRAIN RESEARCH* 2015;1608(191-202)
ALZET Comments: miR-126; Saline; CSF/CNS (intrathecal); Rat; 1003D; Controls received mp w/ control agomir; animal info (male, Sprague Dawley, 180-220g); spinal cord injury; post op. care (Ringer's solution administered IP 5 ml, penicillin G 40000 U IM QD for 3 days, bladders manually expressed BID); behavioral testing (locomotor testing, open field); immunology; pumps primed overnight at 37C.

Q5034: T. Hongu, Y. Funakoshi, S. Fukuhara, T. Suzuki, S. Sakimoto, N. Takakura, M. Ema, S. Takahashi, S. Itoh, M. Kato, H. Hasegawa, N. Mochizuki and Y. Kanaho. Arf6 regulates tumour angiogenesis and growth through HGF-induced endothelial beta1 integrin recycling. *Nat Commun* 2015;6(7925)
ALZET Comments: SecinH3; DMSO; glycerol; SC; Mice; 2001; 16 days; Controls received mp w/ vehicle; animal info (male, Arf6 flox/flox, 8 weeks old); pumps replaced every 4 days; 50% DMSO used; 50% glycerol; cancer (B16 melanoma or LLC); xenograft model;.

Q4436: L. S. Gutierrez, J. Ling, D. Nye, K. Papatomas, C. Dickinson and L. S. Gutierrez. Thrombospondin peptide ABT-898 inhibits inflammation and angiogenesis in a colitis model. *WORLD JOURNAL OF GASTROENTEROLOGY* 2015;21(6157-6166)
ALZET Comments: ABG-898; Glucose, sterile; SC; Mice; 7 days; Controls received mp w/ vehicle; animal info (WT or TSP-1 -/-); 5% glucose used; cardiovascular; immunology; peptides;.

Q4414: P. Escudero, A. Navarro, C. Ferrando, E. Furio, H. Gonzalez-Navarro, M. Juez, M. J. Sanz, L. Piqueras and L. Piqueras. Combined treatment with bexarotene and rosuvastatin reduces angiotensin-II-induced abdominal aortic aneurysm in apoE(-/-) mice and angiogenesis. *BRITISH JOURNAL OF PHARMACOLOGY* 2015;172(2946-2960)
ALZET Comments: Rosuvastatin, Angiotensin II; Saline; SC; Mice; 2004; 5 days; Controls received mp w/ vehicle; animal info (apoE -/-, 8 weeks old); cardiovascular; peptides; "Because the s.c. administration of the statin using an osmotic minipump allows 100% drug bioavailability and its p.o. administration results in 34.5% bioavailability in mice (Peng et al., 2009), we chose the former route to ensure a full dosage effect." pg 2948; comparison of mp vs. oral gavage.

Q4410: Q. L. Duan, L. Yang, W. Gong, S. Chaugai, F. Wang, C. Chen, P. H. Wang, M. H. Zou, D. W. Wang and D. W. Wang. MicroRNA-214 Is Upregulated in Heart Failure Patients and Suppresses XBP1-Mediated Endothelial Cells Angiogenesis. *JOURNAL OF CELLULAR PHYSIOLOGY* 2015;230(1964-1973)
ALZET Comments: Isoproterenol hydrochloride; Mice; 1002; 1004; 14 days; 28 days; Controls received mp w/ saline; animal info (C57BL6); cardiovascular;.

Q4368: W. H. Chen, C. Q. Mao, L. L. Zhuo, J. L. Ong and W. H. Chen. Beta-nerve growth factor promotes neurogenesis and angiogenesis during the repair of bone defects. *Neural Regeneration Research* 2015;10(1159-1165)
ALZET Comments: Nerve growth factor, b-; PBS; Evans blue dye; Bone (parietal); Rat; 2001; 7 days; Controls received mp w/ vehicle; animal info (male, Sprague Dalwey, 250-300g); 1% Evans blue used; good methods (picture of dual cannula impmlantation pg 1161); Multiple pumps per animal (2); pump with agent inserted into right pocket, pump with PBS inserted into left pocket; bilateral infusion;.

Q4227: J. L. Zhang, W. L. Yang, B. Q. Hu, W. Wu, M. B. Fallon and M. B. Fallon. Endothelin-1 Activation of the Endothelin B Receptor Modulates Pulmonary Endothelial CX3CL1 and Contributes to Pulmonary Angiogenesis in Experimental Hepatopulmonary Syndrome. *American Journal of Pathology* 2014;184(1706-1714)
ALZET Comments: BQ788; Saline; IV (femoral); Rat; 2002; 2 weeks; Controls received mp w/ vehicle; animal info (male, Sprague Dawley, 250-300g); cardiovascular; BQ788 is a selective ETb receptor antagonist; common bile duct ligation;.



Q4166: Y. Wang, Y. D. Zhu, Q. Gui, X. D. Wang, Y. X. Zhu and Y. Wang. Glucagon-induced angiogenesis and tumor growth through the HIF-1-VEGF-dependent pathway in hyperglycemic nude mice. *GENETICS AND MOLECULAR RESEARCH* 2014;13(7):7173-7183

ALZET Comments: Glucagon; Cetrimid solution; IP; Mice (nude); 1007D; 5 days; Animal info (female, BALB/C nu/nu, 7 weeks old); functionality of mp verified by glycemia; cancer (lung); dose-response (pg 7179); cardiovascular;

Q4172: X. W. Wang, M. Khaidakov, Z. K. Guo, Z. F. Ding, Q. Z. He, J. L. Mehta and X. W. Wang. LOX-1 Deletion Limits Cardiac Angiogenesis in Mice Given Angiotensin II. *Cardiovascular Drugs and Therapy* 2014;28(4):441-446

ALZET Comments: Angiotensin II; SC; Mice; 4 weeks; Controls received mp w/ saline; animal info (LOX-1 KO or WT); cardiovascular; peptides; bp measured using tail cuff;

Q4045: H. M. Peshavariya, G. S. Liu, C. W. T. Chang, F. Jiang, E. C. Chan, G. J. Dusting and H. M. Peshavariya. Prostacyclin Signaling Boosts NADPH Oxidase 4 in the Endothelium Promoting Cytoprotection and Angiogenesis. *ANTIOXIDANTS & REDOX SIGNALING* 2014;20(27):2710-2725

ALZET Comments: Cicaprost; Saline; DMSO; tris; SC; Mice; 14 days; Controls received mp w/ vehicle; animal info (male, C57BL6 6-8 weeks old); 25% DMSO used;

Q3551: K. P. Loh, G. Ng, C. Y. Yu, C. Fhu, D. J. Yu, R. Vennekens, B. Nilius, T. W. Soong and P. Liao. TRPM4 inhibition promotes angiogenesis after ischemic stroke. *PFLUGERS ARCHIV-EUROPEAN JOURNAL OF PHYSIOLOGY* 2014;466(3):563-576

ALZET Comments: RNA, small interfering TRPM inhibiting; IV (jugular); Rat; 24 hours; Controls received mp w/ vehicle; animal info (male, Wistar, 300g); ischemia (cerebral); behavioral testing (rotarod apparatus); gene therapy; cardiovascular; TRPM4 aka transient receptor potential melastatin 4;

Q3953: S. Lankhorst, M. H. W. Kappers, J. H. M. van Esch, F. M. M. Smedts, S. Sleijfer, R. H. J. Mathijssen, H. J. Baelde, A. H. J. Danser, A. H. van den Meiracker and A. H. van den Meiracker. Treatment of Hypertension and Renal Injury Induced by the Angiogenesis Inhibitor Sunitinib Preclinical Study. *Hypertension* 2014;64(12):282-U260

ALZET Comments: Captopril; SC; Rat; 2ML2; 8 days; Animal info (male, Wistar Kyoto, 280-300g); cardiovascular; antihypertensive; bp measured using radiotelemetry (DSI);

Q3230: B. L. Hoh, K. Hosaka, D. P. Downes, K. W. Nowicki, E. N. Wilmer, G. J. Velat and E. W. Scott. Stromal cell derived factor-1 promoted angiogenesis and inflammatory cell infiltration in aneurysm walls. *Journal of Neurosurgery* 2014;120(1):73-86

ALZET Comments: Angiotensin II; PBS; SC; Mice; 3 weeks; Animal info (female, C57BL6, 6-8 weeks old, 20-25g); cardiovascular; immunology; peptides.

Q2880: G. D. Zhang, D. Panigrahy, L. M. Mahakian, J. Yang, J. Y. Liu, K. S. S. Lee, H. I. Wettersten, A. Ulu, X. W. Hu, S. Tam, S. H. Hwang, E. S. Ingham, M. W. Kieran, R. H. Weiss, K. W. Ferrara and B. D. Hammock. Epoxy metabolites of docosahexaenoic acid (DHA) inhibit angiogenesis, tumor growth, and metastasis. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA* 2013;110(16):6530-6535

ALZET Comments: Epoxy Decosapentaenoic acid; epoxide hydrolase, soluble;; PEG 400; DMSO; SC; Mice; 1002; 2 weeks; Dose-response (Fig. 1A); 50% DMSO used; 50% PEG 400 used; Epoxy Decosapentaenoic acid (19, 20-DEP); epoxide hydrolase inhibitor (EHi);

Q2710: K. M. Talasila, A. Soentgerath, P. Euskirchen, G. V. Rosland, J. Wang, P. C. Huzsthy, L. Prestegarden, K. O. Skafnesmo, P. O. Sakariassen, E. Eskilsson, D. Stieber, O. Keunen, N. Brekka, I. Moen, J. M. Nigro, O. K. Vintermyr, M. Lund-Johansen, S. Niclou, S. J. Mork, P. O. Enger, R. Bjerkvig and H. Miletic. EGFR wild-type amplification and activation promote invasion and development of glioblastoma independent of angiogenesis. *Acta Neuropathologica* 2013;125(5):683-698

ALZET Comments: Cetuximab; CSF/CNS (intratumoral); Rat (nude); 2ML4; 4 weeks; Control animals received mp w/ PBS; animal info (rnu/rnu Rowett); ALZET brain infusion kit 2 used; convection enhanced delivery (CED); tissue perfusion (intratumoral).



Q2925: J. H. Seo, J. H. Yu, H. Suh, M. S. Kim and S. R. Cho. Fibroblast Growth Factor-2 Induced by Enriched Environment Enhances Angiogenesis and Motor Function in Chronic Hypoxic-Ischemic Brain Injury. *PLoS One* 2013;8(9):U184-U194

ALZET Comments: Antibody, fibroblast growth factor-2;; CSF/CNS; Mice; 1002; 8 weeks; Animal Info. (Hypoxic-ischemic mice, 6 weeks old, CD-1); Pumps replaced (every 2 weeks); Ischemia (hypoxic ischemic brain injury); Behavior testing (Rotarod performance, forelimb-use asymmetry test, grip strength test).

Q5064: I. D. Kim, K. H. Ahn, S. Lee, S. C. Hong, S. H. Kim and T. Kim. Effect of ovariectomy, 17-beta estradiol, and progesterone on histology and estrogen receptors of bladder in female partial bladder outlet obstruction rat model. *J Obstet Gynaecol Res* 2013;39(7):1259-67

ALZET Comments: estrogen; progesterone; dehydroepiandrosterone; DMSO; SC; Rat; animal info: Sprague-Dawley, bladder outlet obstruction model, ovariectomized model; functionality of mp verified by plasma measurement ; mp used to infuse estrogen, progesterone, and DHEA to examine their effect on angiogenesis of the bladder detrusor; dose: E2 (0.1 mg/kg/day); P4 (1mg/kg/day); P4 and DHEA (300 ug/kg/day);.

Q2780: A. L. Guan, H. Gong, Y. Ye, J. G. Jia, G. P. Zhang, B. Y. Li, C. J. Yang, S. L. Qian, A. J. Sun, R. Z. Chen, J. B. Ge and Y. Z. Zou. Regulation of p53 by Jagged1 Contributes to Angiotensin II-Induced Impairment of Myocardial Angiogenesis. *PLoS One* 2013;8(10):U644-U656

ALZET Comments: Angiotensin II; SC; Mice; 2 weeks; Animal info (C57BL/6, male, 8 wks old); peptides.

Q2407: K. Yoshioka, K. Yoshida, H. Cui, T. Wakayama, N. Takuwa, Y. Okamoto, W. Du, X. Qi, K. Asanuma, K. Sugihara, S. Aki, H. Miyazawa, K. Biswas, C. Nagakura, M. Ueno, S. Iseki, R. J. Schwartz, H. Okamoto, T. Sasaki, O. Matsui, M. Asano, R. H. Adams, N. Takakura and Y. Takuwa. Endothelial PI3K-C2alpha, a class II PI3K, has an essential role in angiogenesis and vascular barrier function. *Nature Medicine* 2012;18(10):1560-U170

ALZET Comments: Angiotensin II; SC; Mice; 1002; 14 days; Animal info (Pik3c2a -/-, 12 wks old, male); peptides.

Q1819: O. Thau-Zuchman, E. Shohami, A. G. Alexandrovich and R. R. Leker. SUBACUTE TREATMENT WITH VASCULAR ENDOTHELIAL GROWTH FACTOR AFTER TRAUMATIC BRAIN INJURY INCREASES ANGIOGENESIS AND GLIOGENESIS. *Neuroscience* 2012;202(:):334-341

ALZET Comments: Vascular endothelial growth factor; Saline; CSF/CNS; Mice; 7 days; Controls received mp w/ vehicle; animal info (adult, Sabra, 40 g).

Q1655: O. Thau-Zuchman, E. Shohami, A. G. Alexandrovich and R. R. Leker. Combination of Vascular Endothelial and Fibroblast Growth Factor 2 for Induction of Neurogenesis and Angiogenesis after Traumatic Brain Injury. *Journal of Molecular Neuroscience* 2012;47(1):166-172

ALZET Comments: Vascular endothelial growth factor; Saline; CSF/CNS; Mice; 1007D; 7 days; Controls received mp w/ vehicle; animal info (male, Sabra, adult, 40 g).

Q2405: R. Muramatsu, C. Takahashi, S. Miyake, H. Fujimura, H. Mochizuki and T. Yamashita. Angiogenesis induced by CNS inflammation promotes neuronal remodeling through vessel-derived prostacyclin. *Nature Medicine* 2012;18(11):1658-1U93

ALZET Comments: CAY10441; iloprost; Saline; CSF/CNS (intrathecal); Mice; 1002; 1004; 2, 4 weeks; Control animals received mp w/ vehicle; animal info (SLJ/L, female).

Q2076: R. Miyazaki, T. Ichiki, T. Hashimoto, J. Ikeda, A. Kamiharaguchi, E. Narabayashi, H. Matsuura, K. Takeda and K. Sunagawa. Acetylcholinesterase inhibitors attenuate angiogenesis. *Clinical Science* 2012;123(3-4):241-249

ALZET Comments: Physostigmine; Mice; 2 weeks; Animal info (C57BL/6, 9 wks old); enzyme inhibitor (acetylcholinesterase); hindlimb ischemia.

Q2434: J. Menon, R. C. Doebele, S. Gomes, E. Bevilacqua, K. M. Reindl and M. R. Rosner. A Novel Interplay between Rap1 and PKA Regulates Induction of Angiogenesis in Prostate Cancer. *PLoS One* 2012;7(11):U770-U779

ALZET Comments: 8CPT; H-89; SC; Mice; 2004; 28 days; Control animals received mp w/ PBS; animal info (male, athymic, 15-20 g, 4-6 wks old); 8CPT also known as 8-pCPT-2'-O-Me-cAMP; enzyme inhibitor (PKA); cancer (prostate).



Q2132: X. F. Jing, H. Miwa, T. Sawada, I. Nakanishi, T. Kondo, M. Miyajima and K. Sakaguchi. Ephrin-A1-Mediated Dopaminergic Neurogenesis and Angiogenesis in a Rat Model of Parkinson's Disease. PLoS One 2012;7(2):U1066-U1079

ALZET Comments: Ephrin-A1-fc; CSF/CNS; Rat; 1007D; 7 days; Controls received mp w/ clustered IgG-Fc; animal info (Sprague Dawley, 7-9 wks old).

Q1785: P. Albertsson, B. Lennernaes and K. Norrby. Low-dosage metronomic chemotherapy and angiogenesis: topoisomerase inhibitors irinotecan and mitoxantrone stimulate VEGF-A-mediated angiogenesis. APMIS 2012;120(2):147-156

ALZET Comments: Irinotecan; mitoxantrone; Saline; SC; Rat; 2ML2; 14 days; Controls received mp w/ vehicle; animal info (Sprague Dawley, adult); chemotherapeutic;

Q1332: R. Soleimani, E. Heytens and K. Oktay. Enhancement of Neoangiogenesis and Follicle Survival by Sphingosine-1-Phosphate in Human Ovarian Tissue Xenotransplants. PLoS One 2011;6(4):U2019-U2026

ALZET Comments: Sphingosine-1-Phosphate; Saline; SC; Mice (SCID); 2001D; 1-4 days; 24 hours; Controls received mp w/ vehicle; animal info (SCID).

Q1722: R. R. Malla, S. Gopinath, C. S. Gondi, K. Alapati, D. H. Dinh, M. Gujrati and J. S. Rao. Cathepsin B and uPAR knockdown inhibits tumor-induced angiogenesis by modulating VEGF expression in glioma. Cancer Gene Therapy 2011;18(6):419-434

ALZET Comments: Cathepsin B; vector, scrambled; Mice (nude); 1002; Animal info (athymic, nu/nu, 5-7 wks old).

Q1208: G. Liang, C. Butterfield, J. W. Liang, A. Birsner, J. Folkman and Y. Shing. Beta-35 is a transferrin-derived inhibitor of angiogenesis and tumor growth. Biochemical and Biophysical Research Communications 2011;409(3):562-566

ALZET Comments: Beta-35; IP; Mice (SCID); 200 hours; Controls received mp w/ vehicle; animal info (male, 24-27 g); pumps replaced every 7 days; cancer (pancreatic, melanoma); Beta-35 is an angiogenesis inhibitor.

Q1457: J. Y. Li, C. H. Su, Y. J. Wu, T. Y. Tien, C. L. Hsieh, C. H. Chen, Y. M. Tseng, G. Y. Shi, H. L. Wu, C. H. Tsai, F. Y. Lin and H. I. Yeh. Therapeutic Angiogenesis of Human Early Endothelial Progenitor Cells Is Enhanced by Thrombomodulin. ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY 2011;31(11):2518-U403

ALZET Comments: TMD23; IV; Mice (nude); 2ML4; Controls received mp w/ PBS; animal info (BALB/c, female, athymic, nude, 18-22 g, 8 wks old); incorrectly listed Model 2ML4 for use in mice; TMD23 also known as thrombomodulin domains 2 and 3.

Q0757: V. Leksa, R. Loewe, B. Binder, H. B. Schiller, P. Eckerstorfer, F. Forster, A. Soler-Cardona, G. Ondrovicova, E. Kutejova, E. Steinhuber, J. Breuss, J. Drach, P. Petzelbauer, B. R. Binder and H. Stockinger. Soluble M6P/IGF2R Released by TACE Controls Angiogenesis via Blocking Plasminogen Activation. Circulation Research 2011;108(6):676-U323

ALZET Comments: Peptide (18-36); scrambled peptide; SC; Mice (SCID); 1002; 15 days; Animal info (pathogen-free, 6 wks old, female, CB17, scid/scid); peptides; cancer; angiogenesis.

Q1166: J. Kim, T. Koyanagi and D. Mochly-Rosen. PKC delta Activation Mediates Angiogenesis via NADPH Oxidase Activity in PC-3 Prostate Cancer Cells. PROSTATE 2011;71(9):946-954

ALZET Comments: V1-1, delta; RACK, delta omega; Saline; Mice (nude); 2001; 4 weeks; Controls received mp w/ TAT carrier peptide; animal info (6 wks old, male, nu/nu); peptides; pumps replaced after 2 weeks; cancer (prostate); half-life, 2 weeks in the pump (p. 947); deltaV1-1 is a PKC delta-selective inhibitor; delta gamma RACK is a PKC delta selective activator.

Q1108: R. Gupta, A. K. Nalla, V. R. Gogineni, C. Chetty, P. Bhoopathi, J. D. Klopfenstein, A. J. Tsung, S. Mohanam and J. S. Rao. uPAR/Cathepsin B Overexpression Reverse Angiogenesis by Rescuing FAK Phosphorylation in uPAR/Cathepsin B Down Regulated Meningioma. PLoS One 2011;6(2):U298-U308

ALZET Comments: Plasmid, pCU, pU2, FluPAR/Cathepsin B; Mice (nude); Controls received mp w/ control plasmid pSV; animal info (athymic, nu/nu, female, 5-7 wks old); cancer (meningioma).



Q1741: M. J. Frontini, Z. X. Nong, R. Gros, M. Drangova, C. O'Neil, M. N. Rahman, O. Akawi, H. Yin, C. G. Ellis and J. G. Pickering. Fibroblast growth factor 9 delivery during angiogenesis produces durable, vasoresponsive microvessels wrapped by smooth muscle cells. *NATURE BIOTECHNOLOGY* 2011;29(5):421-U232

ALZET Comments: Fibroblast growth factor-9; PBS; IA (femoral); Mice; 1007D; Controls received mp w/ vehicle; animal info (male, C57BL/6J, 9-10 mo old); polyethylene tubing used; ischemia (hind limb).

Q1046: M. Durando, L. Kass, V. Perdomo, V. L. Bosquiazzo, E. H. Luque and M. Munoz-de-Toro. Prenatal exposure to bisphenol A promotes angiogenesis and alters steroid-mediated responses in the mammary glands of cycling rats. *Journal of Steroid Biochemistry and Molecular Biology* 2011;127(1-2):35-43

ALZET Comments: Bisphenol A; DMSO; SC; Rat; 1002; 14 days; Controls received mp w/ vehicle; animal info (female, 3 mo old, Wistar); 50% DMSO used.

Q0307: V. Shenoy, A. J. Ferreira, Y. F. Qi, R. A. Fraga-Silva, C. ez-Freire, A. Dooies, J. Y. Jun, S. Sriramula, N. Mariappan, D. Pourang, C. S. Venugopal, J. Francis, T. Reudelhuber, R. A. Santos, J. M. Patel, M. K. Raizada and M. J. Katovich. The Angiotensin-Converting Enzyme 2/Angiogenesis-(1-7)/Mas Axis Confers Cardiopulmonary Protection against Lung Fibrosis and Pulmonary Hypertension. *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE* 2010;182(8):1065-1072

ALZET Comments: A-779; Rat; 2ML4; 28 days; Animal info (5 wks old, male, Sprague Dawley).

Q0167: M. Sahara, M. Sata, T. Morita, T. Nakajima, Y. Hirata and R. Nagai. A Phosphodiesterase-5 Inhibitor Vardenafil Enhances Angiogenesis Through a Protein Kinase G-Dependent Hypoxia-Inducible Factor-1/Vascular Endothelial Growth Factor Pathway. *Arterioscler Thromb Vasc Biol* 2010;30(1315-1324

ALZET Comments: Vardenafil; PBS; SC; Mice; Controls received mp w/ vehicle; enzyme inhibitor (PDE5, phosphodiesterase-5); ischemia (hind limb); animal info (C57BL/6, C3H/He, 12-16 wks old, eNose -/-).

Q1604: F. H. Passam, J. C. Qi, K. Tanaka, K. I. Matthaai and S. A. Krilis. In vivo modulation of angiogenesis by beta 2 glycoprotein I. *Journal of Autoimmunity* 2010;35(3):232-240

ALZET Comments: Glycoprotein I, beta 2; SC; Mice; 16, 21 days; Controls received mp w/ saline; animal info (129/Sv/C57BL/6, beta 2GP1 -/-, wt, 10 wks old); 200 ul sized pump used; cancer.

Q0306: K. Norrby and A. Nordenhem. Dalteparin, a low-molecular-weight heparin, promotes angiogenesis mediated by heparin-binding VEGF-A in vivo. *APMIS* 2010;118(12):949-957

ALZET Comments: Dalteparin; epirubicin; Saline; SC; Rat; 2002; 2ML2; 14 days; Controls received mp w/ vehicle; animal info (adult, male, Sprague-Dawley, 6-7 wks old, 218-223 g.); cancer; multiple pumps per animal (2); dalteparin is a low-molecular-weight heparin; epirubicin is a chemotherapeutic.

Q1168: M. Kioi, H. Vogel, G. Schultz, R. M. Hoffman, G. R. Harsh and J. M. Brown. Inhibition of vasculogenesis, but not angiogenesis, prevents the recurrence of glioblastoma after irradiation in mice. *Journal of Clinical Investigation* 2010;120(3):694-705

ALZET Comments: AMD 3100; Mice (nude); 21 days; Animal info (athymic, nu/nu); cancer; "An important feature of our data is that although we completed the drug infusion before the tumors were eradicated, the tumors continued to shrink and did not recur even long after the end of the infusion." pg 702.

Q1659: A. A. Khan, D. S. Dace, A. G. Ryazanov, J. Kelly and R. S. Apte. Resveratrol Regulates Pathologic Angiogenesis by a Eukaryotic Elongation Factor-2 Kinase-Regulated Pathway. *American Journal of Pathology* 2010;177(1):481-492

ALZET Comments: Resveratrol; Sirt1 inhibitor III; NH125; Ethanol; SC; Mice; 14 days; Controls received mp w/ vehicle; animal info (C57BL/6, eFK2 -/-); 25% ethanol used.

R0287: S. S. Glaser, E. Gaudio and G. Alpini. Vascular factors, angiogenesis and biliary tract disease. *CURRENT OPINION IN GASTROENTEROLOGY* 2010;26(3):246-250

ALZET Comments: Vascular endothelial growth factor, alpha; BSA; IP; Rat; 1 week; animal info (BDL+HAL).



Q0604: E. Gee, M. Milkiewicz and T. L. Haas. p38 MAPK Activity Is Stimulated by Vascular Endothelial Growth Factor Receptor 2 Activation and Is Essential for Shear Stress-Induced Angiogenesis. *Journal of Cellular Physiology* 2010;222(1):120-126

ALZET Comments: SB203580; Saline; IP; Rat; 7 days; Controls received mp w/ SB202474; animal info (male, Sprague Dawley, 150-200 g).

Q0678: K. A. Thatch, K. G. Mendelson, M. M. Haber and M. Z. Schwartz. Growth Factor Manipulation of Intestinal Angiogenesis: A Possible New Paradigm in the Management of Inflammatory Bowel Disease. *Journal of Surgical Research* 2009;156(2):245-249

ALZET Comments: Hepatocyte growth factor, recomb. human; HCl, Tris; PBS; IV (jugular); Rat; 1002; 14 days; Controls received mp w/ saline; animal info (female, adult, Fisher).

P9450: H. Takenaka, M. Horiba, H. Ishiguro, A. Sumida, M. Hojo, A. Usui, T. Akita, S. Sakuma, Y. Ueda, I. Kodama and K. Kadomatsu. Midkine prevents ventricular remodeling and improves long-term survival after myocardial infarction. *American Journal of Physiology-Heart and Circulatory Physiology* 2009;296(2):H462-H469

ALZET Comments: Midkine, recomb. human; Saline; SC; Mice; 7-28 days; Controls received mp w/ vehicle; pump replaced every 7 days; cardiovascular; peptides; ischemia (cardiac); animal info (male, C57BL/6, MK-KO, wt, 10-12 wks old, 22-25 g., MI); angiogenesis.

Q0490: Y. Takeda, S. Uemura, H. Iwama, K. I. Imagawa, T. Nishida, K. Onoue, Y. Takemoto, T. Soeda, S. Okayama, S. Somekawa, K. I. Ishigami, M. Takaoka, H. Kawata, A. Kubo, M. Horii, T. Nakajima and Y. Saito. Treatment With Recombinant Placental Growth Factor (PIGF) Enhances Both Angiogenesis and Arteriogenesis and Improves Survival After Myocardial Infarction. *CIRCULATION JOURNAL* 2009;73(9):1674-1682

ALZET Comments: Placental growth factor, recomb. human; sFlt-1, recomb. human; IP; Mice; 3, 7 days; Controls received mp w/ vehicle; animal info (C57BL/6, 12 wks old); polyethylene IP catheter used.

P9819: R. Savai, A. C. Langheinrich, R. T. Schermuly, S. S. Pullamsetti, R. Dumitrescu, H. Traupe, W. S. Rau, W. Seeger, F. Grimminger and A. Banat. Evaluation of Angiogenesis Using Micro-Computed Tomography in a Xenograft Mouse Model of Lung Cancer. *NEOPLASIA* 2009;11(1):48-56

ALZET Comments: Bevacizumab; IV (jugular); Mice (nude); 2002; 14 days; Controls received mp w/ distilled water; animal info (female, C57BL/6, 5-7 wks old, BALB/c, nu/nu, 7-8 wks old); pump implanted IP; bevacizumab is a anti-VEGF antibody; "This delivery (using ALZET pumps) mimics local delivery of antivascular agents and can be used effectively alone or in combination with cytotoxic chemotherapy for site-specific drug delivery for lung cancer treatment. As expected, continuous infusion of bevacizumab decreased lung tumor volume and tumor perfusion, with an added survival advantage compared to the untreated group." pg 55; cancer (lung); antibody.

P9817: A. R. Reynolds, I. R. Hart, A. R. Watson, J. C. Welti, R. G. Silva, S. D. Robinson, G. Da Violante, M. Gourlaouen, M. Salih, M. C. Jones, D. T. Jones, G. Saunders, V. Kostourou, F. Perron-Sierra, J. C. Norman, G. C. Tucker and K. M. Hodivala-Dilke. Stimulation of tumor growth and angiogenesis by low concentrations of RGD-mimetic integrin inhibitors. *Nature Medicine* 2009;15(4):392-400

ALZET Comments: EMD 121974; S 36578; Saline; Mice; 2002; Controls received mp w/ vehicle; cancer; animal info (C57BL/6); S 36578 is a RGD- mimetic small molecule; EMD 121974 also known as Cilengitide; dose response (fig. 1, pg. 393).

P9897: M. Onimaru, Y. Yonemitsu, T. Fujii, M. Tani, T. Nakano, K. Nakagawa, R. Kohno, M. Hasegawa, S. Nishikawa and K. Sueishi. VEGF-C regulates lymphangiogenesis and capillary stability by regulation of PDGF-B. *American Journal of Physiology-Heart and Circulatory Physiology* 2009;297(5):H1685-H1696

ALZET Comments: AFL-4; IP; Mice (nude); 1007D; 7 days; Controls received mp w/control antibody; animal info (male, C57BL/6J, 6 wks old, nu; BALB/C, nu, 5 wks old); AFL-4 is a murine VEGFR3-specific neutralizing antibody.



P9661: J. A. Miyake, M. Benadiba and A. Colquhoun. Gamma-linolenic acid inhibits both tumour cell cycle progression and angiogenesis in the orthotopic C6 glioma model through changes in VEGF, Flt1, ERK1/2, MMP2, cyclin D1, pRb, p53 and p27 protein expression. *Lipids in Health and Disease* 2009;8(1):U1-U10

ALZET Comments: Gamma linolenic acid; CSF, artificial; CSF/CNS (intratumoral); Rat; 2002; 14 days; Controls received mp w/vehicle; cancer (glioma); ALZET brain infusion kit used; animal info (adult, female, Wistar, 250-350).

Q0629: F. Maione, F. Molla, C. Meda, R. Latini, L. Zentilin, M. Giacca, G. Seano, G. Serini, F. Bussolino and E. Giraud. Semaphorin 3A is an endogenous angiogenesis inhibitor that blocks tumor growth and normalizes tumor vasculature in transgenic mouse models. *Journal of Clinical Investigation* 2009;119(11):3356-3372

ALZET Comments: SM-216289; SC; Mice (transgenic); 1002; 2 weeks; Controls received mp w/ saline; animal info (RipTag2 Tg, 8.5 wks old); minipump and silastic tube were sutured to the abdominal wall; cancer.

Q0790: R. R. Leker, Z. E. Toth, T. Shahar, R. Cassiani-Ingoni, I. Szalayova, S. Key, A. Bratincsak and E. Mezey. TRANSFORMING GROWTH FACTOR alpha INDUCES ANGIOGENESIS AND NEUROGENESIS FOLLOWING STROKE. *Neuroscience* 2009;163(1):233-243

ALZET Comments: Transforming growth factor, alpha; CSF, artificial; CSF/CNS (infarct border); Mice; 1002; 14 days; Controls received mp w/ vehicle; animal info (C57B, male, 4-6 wks old).

P9550: S. Hoang, J. Liauw, M. Choi, M. Choi, R. G. Guzman and G. K. Steinberg. Netrin-4 enhances angiogenesis and neurologic outcome after cerebral ischemia. *Journal of Cerebral Blood Flow and Metabolism* 2009;29(2):385-397

ALZET Comments: Netrin, recomb. mouse; CSF, artificial; CSF/CNS; Mice; 1003D; Controls received mp w/vehicle; ischemia (focal cerebral); animal info (adult, male, C57BL/6J, 30-35g); brain tissue distribution; aCSF recipe.

P9597: D. M. Beauvais, B. J. Ell, A. R. McWhorter and A. C. Rapraeger. Syndecan-1 regulates alpha_vbeta₃ and alpha_vbeta₅ integrin activation during angiogenesis and is blocked by synstatin, a novel peptide inhibitor. *Journal of Experimental Medicine* 2009;206(3):691-705

ALZET Comments: Synstatin (82-130); synstatin (94-119); synstatin (92-119); cyclic RGDfv; cyclic RADfv; PBS; DMSO; H₂O, double distilled; Mice (nude); 2004; 4 weeks; Controls received mp w/vehicle, or PBS; cancer; peptides; animal info (6-8 wks old, female, athymic, BALB/c); 50% DMSO used; chemotherapeutic.

P9489: P. Albertsson, B. Lennernaes and K. Norrby. Low-dose continuous 5-fluorouracil infusion stimulates VEGF-A-mediated angiogenesis. *Acta Oncologica* 2009;48(3):418-425

ALZET Comments: Fluorouracil, 5-; NaCl; SC; Rat; 2ML2; 14 days; Controls received mp w/ vehicle; no stress (see pg. 420); pumps primed; "No animal died during the surgical procedure or post surgical period"; angiogenesis; "The animals behaved normally and there were no signs of diarrhea or stomatitis." pg 240.

P9206: D. Zagorac, D. Jakovcevic, D. Gebremedhin and D. R. Harder. Antiangiogenic effect of inhibitors of cytochrome P450 on rats with glioblastoma multiforme. *Journal of Cerebral Blood Flow and Metabolism* 2008;28(8):1431-1439

ALZET Comments: Miconazole; octadecynoic acid, 17-; Ethanol; CSF, artificial; CSF/CNS (intratumoral); Rat; 1002; 14 days; Controls received mp w/ vehicle; enzyme inhibitor (CYP epoxygenase); tissue perfusion (tumor); ALZET brain infusion kit used; animal info (male, Fisher, 8-10 wks old); 10% ethanol used; antiangiogenesis.

P9676: R. J. Smith, L. Gao, L. Chao and J. Chao. Tissue kallikrein and kinin infusion promotes neovascularization in limb ischemia. *BIOLOGICAL CHEMISTRY* 2008;389(6):725-730

ALZET Comments: Kallikrein, tissue; bradykinin; bradykinin, des-Arg-; PBS; SC; Rat; 2 weeks; Controls received mp w/ vehicle; ischemia (hindlimb); animal info (male, Wistar, 200 g.); "a continuous supply of TK/kinin using protein delivery can induce therapeutic angiogenesis in rat model of hindlimb ischemia" pg. 729.

P9143: J. W. Kim, Y. L. Choi, A. Vallentin, B. S. Hunrichs, M. K. Hellerstein, D. M. Peehl and D. Mochly-Rosen. Centrosomal PKCbeta1 and pericentrin are critical for human prostate cancer growth and angiogenesis. *Cancer Research* 2008;68(16):6831-6839



ALZET Comments: TAT (47-57); IIV5-3, beta-; Saline; Mice (nude); 2001; 5 weeks; Controls received mp w/ vehicle or TAT (47-57); pumps replaced every 2 weeks; half-life (p. 6832) ~ 2 wks; enzyme inhibitor (PKC beta11, protein kinase C); animal info (6 wks old, male).

P9031: D. H. Jin, K. Yamahara, K. Harada, S. Ohnishi, K. Kangawa and N. Nagoya. Adrenomedullin Induces Lymphangiogenesis and Ameliorates Secondary Lymphedema. *Circulation* 2008;118(18):S507-S507

ALZET Comments: Adrenomedullin, recomb. human; Saline; SC; Mice; 14 days; Controls received mp w/ vehicle; peptides; animal info (male, BALB/c, 8-10 wks old).

P8933: T. Fujii, Y. Yonemitsu, M. Onimaru, M. Inoue, M. Hasegawa, H. Kuwano and K. Sueishi. VEGF function for upregulation of endogenous PIGF expression during FGF-2-mediated therapeutic angiogenesis. *Atherosclerosis* 2008;200(1):51-57

ALZET Comments: Antibody, anti-VEGF; IP; Mice; 1007D; Ischemia (hind limb); animal info (male, C57BL/6, 6-7 wks old).

R0276: J. P. Cooke and Y. T. Ghebremariam. Endothelial Nicotinic Acetylcholine Receptors and Angiogenesis. *TRENDS IN CARDIOVASCULAR MEDICINE* 2008;18(7):247-253

ALZET Comments: Mecamylamine; Mice; 2 weeks; REVIEW, see Kiuchi et a.

P9287: E. Brahn, M. L. Banquerigo, J. K. Lee, E. J. Park, W. E. Fogler and S. M. Plum. An Angiogenesis Inhibitor, 2-Methoxyestradiol, Involutes Rat Collagen-Induced Arthritis and Suppresses Gene Expression of Synovial Vascular Endothelial Growth Factor and Basic Fibroblast Growth Factor. *Journal of Rheumatology* 2008;35(11):2119-2128

ALZET Comments: Estradiol, 2-methoxy-; SC; Rat; 2ML4; 18 days; Controls received mp w/ vehicle; comparison of oral gavage vs. mp; animal info (syngeneic LOU, 8-10 wks old, 100-150 g., Collagen-induced arthritis; "Delivery of 60 mg/kg by an osmotic pump, however, was similar in efficacy to 300 mg/kg oral gavage. This result suggests that a steady-state level of 2ME2 achieved equivalent arthritic inhibition at a lower total dose." (p. 2124).

P9027: H. Belabbas, S. Zalvidea, D. Casellas, J. P. Moles, O. Galbes, J. Mercier and B. Jover. Contrasting effect of exercise and angiotensin II hypertension on in vivo and in vitro cardiac angiogenesis in rats. *American Journal of Physiology-Regulatory Integrative and Comparative Physiology* 2008;295(5):R1512-R1518

ALZET Comments: Angiotensin II; SC; Rat; 2002; 10 days; Controls received mp w/ vehicle; peptides; animal info (Sprague Dawley, 6 wks old).

P9182: G. Alonso, E. Gallibert, C. Lafont and G. Guillon. Intrahypothalamic angiogenesis induced by osmotic stimuli correlates with local hypoxia: A potential role of confined vasoconstriction induced by dendritic secretion of vasopressin. *Endocrinology* 2008;149(9):4279-4288

ALZET Comments: Vasopressin, 1-deamino-8-D-arginine; CSF/CNS; Rat; 1007D; 3, 6 days; Controls received mp w/ PBS; animal info (male, Wistar, Long Evans); dAVP; 26 gauge 10 mm cannula used.

P8780: P. Albertsson, B. Lennernaes and K. Norrby. Dose effects of continuous vinblastine chemotherapy on mammalian angiogenesis mediated by VEGF-A. *Acta Oncologica* 2008;47(2):293-300

ALZET Comments: Vinblastine sulfate; Saline, physiological; SC; Rat; 2001; 2ML1; 6-10 days; Controls received mp w/ vehicle; dose-response (fig. 2); no stress (see pg. 296); cancer; animal info (male, Sprague Dawley, 217-219g.).