

October 2008



Office of Education, Division of Intramural Research
National Heart, Lung, and Blood Institute
FELLOWS NEWSLETTER

The Fellows Newsletter is published monthly by the Office of Education, Division of Intramural Research, National Heart, Lung, and Blood Institute and distributed to NHLBI DIR members to promote the interest of DIR Fellows.

Office of Education, DIR, NHLBI

Herbert M. Geller, Ph.D., Director
Aurora J. Taylor, Assistant Coord.

DIREducation@nhlbi.nih.gov

Building 10, Room 2N242

Tel: 301-451-9440

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From the Director of the Office of Education

With the new Fiscal year, we are beginning our Career Development Seminar series once again, conducted in collaboration with NIDDK. We invite scientists with a variety of careers to talk about their work and how they got there. The first session is a special event on Wednesday, October 29th at Noon, featuring Angelo Del Parigi, M.D., Medical Lead for Academic Medicine, Pfizer Inc., and then monthly thereafter. If you would like to learn about a particular career, please make your suggestion to your Fellows Committee Representative.

Our goal in producing this newsletter to inform the NHLBI about the community of NHLBI fellows. One of the prime achievements of a Fellow is to publish their work, and this newsletter documents publications each month. It has recently come to our attention that we have omitted some publications each month. For that reason, we are providing a "2008 Roundup" in this issue. This list contains information about all the publications for 2008 that have not been previously acknowledged. For all the fellows on this list, we apologize for our error, and hope that you will let us know if we've omitted your publications.

The Fellows Advisory Committee welcomes Dr. Thomas Winkler from the Hematology Branch. The committee is actively involved in planning future activities. If you would like to join us, please contact my Office.

New NHLBI Fellows



Yutaka Uchida,
Ph.D., is a Visiting fellow in Laboratory of Developmental Biology under Dr. Yosuke Mukoyama.

Dr. Uchida received his Ph. D. at Yokahama City University Graduate School of Medicine in Japan. He did a fellowship in the Laboratory of Developmental Neurobiology at the Brain Science Institute. He is now working on the relationship between neural stem cell maintenance and the vascular stem cell niche.



Lu Wang, M.D., is a Visiting fellow in the Laboratory of Molecular Immunology under Dr. Warren Leonard. Dr. Wang received her M.D. from Tongji Medical College at Huazhong University of Science and Technology in China. She did a fellowship in the Department of Immunology at the Cleveland Clinic Foundation in Cleveland Ohio. She will be working on IL2 and IL21 signaling pathway and the role in autoimmune diseases.

2008 Roundup of NHLBI Fellows Publications

- Berra, L.**, Kolobow, T., Laquerriere, P., Pitts, B., Bramati, S., Pohlmann, J., Marelli, C., Panzeri, M., Brambillasca, P., Villa, F., Baccarelli, A., Bouthors, S., Stelfox, H. T., Bigatello, L. M., Moss, J., & Pesenti, A. (2008). Internally coated endotracheal tubes with silver sulfadiazine in polyurethane to prevent bacterial colonization: a clinical trial. *Intensive Care Med.* 34, 1030-1037.
- Berra, L.**, Curto, F., Bassi, G. L., Laquerriere, P., Pitts, B., Baccarelli, A., & Kolobow, T. (2008). Antimicrobial-coated endotracheal tubes: an experimental study. *Intensive Care Med.* 34, 1020-1029.
- Calado, R. T.** & Young, N. S. (2008). Telomere maintenance and human bone marrow failure. *Blood* 111, 4446-4455.
- Cecchini, S.**, Negrete, A., & Kotin, R. M. (2008). Toward exascale production of recombinant adeno-associated virus for gene transfer applications. *Gene Ther.* 15, 823-830.
- Chou, C. L., Yu, M. J., Kassai, E. M., Morris, R. G., Hoffert, J. D., Wall, S. M., & Knepper, M. A. (2008). Roles of basolateral solute uptake via NKCC1 and of myosin II in vasopressin-induced cell swelling in inner medullary collecting duct. *Am. J. Physiol. Renal Physiol.* 295, F192-F201.
- Citterio, C.**, Vichi, A., Pacheco-Rodriguez, G., Aponte, A. M., Moss, J., & Vaughan, M. (2008). Unfolded protein response and cell death after depletion of brefeldin A-inhibited guanine nucleotide-exchange protein GBF1. *Proc. Natl. Acad. Sci. U. S. A* 105, 2877-2882.
- De Silva, R.**, Raval, A. N., Hadi, M., Gildea, K. M., Bonifacino, A. C., Yu, Z. X., Yau, Y. Y., Leitman, S. F., Bacharach, S. L., Donahue, R. E., Read, E. J., & Lederman, R. J. (2008). Intracoronary infusion of autologous mononuclear cells from bone marrow or granulocyte colony-stimulating factor-mobilized apheresis product may not improve remodelling, contractile function, perfusion, or infarct size in a swine model of large myocardial infarction. *Eur. Heart J.* 29, 1772-1782.
- El-Chemaly, S.**, Levine, S. J., & Moss, J. (2008). Lymphatics in lung disease. *Ann. N. Y. Acad. Sci.* 1131, 195-202.
- Foster, M. C.**, Hwang, S. J., Larson, M. G., Lichtman, J. H., Parikh, N. I., Vasan, R. S., Levy, D., & Fox, C. S. (2008). Overweight, obesity, and the development of stage 3 CKD: The Framingham Heart Study. *Am. J. Kid. Dis.* 52, 39-48
- Gallazzini, M.**, Ferraris, J. D., & Burg, M. B. (2008). GDPD5 is a glycerophosphocholine phosphodiesterase that osmotically regulates the osmoprotective organic osmolyte GPC. *Proc. Natl. Acad. Sci. U. S. A* 105, 11026-11031.
- Guttman, M. A., **Raval, A. N.**, Lederman, R. J., & McVeigh, E. R. (2008). Real-time catheter-directed MRA with effective background suppression and persistent rendering. *J. Magn. Res. Imag.* 28, 538-542.
- Hoorn, E. J., **Pisitkun, T.**, Yu, M. J., & Knepper, M. A. (2008). Proteomic approaches for the study of cell signaling in the renal collecting duct. *Contrib. Nephrol.* 160, 172-185.
- Kim, H. P.** & Leonard, W. J. (2007). CREB/ATF-Dependent T-cell receptor-induced FoxP3 gene expression: A role for DNA methylation. *Cytokine* 39, 20-21.
- Lee, H.**, Venable, R. M., MacKerell, A. D., & Pastor, R. W. (2008). Molecular dynamics studies of polyethylene oxide and polyethylene glycol: Hydrodynamic radius and shape anisotropy. *Biophys. J.* 95, 1590-1599.
- Leonard, W. J., **Zeng, R.**, & Spolski, R. (2008). Interleukin 21: a cytokine/cytokine receptor system that has come of age. *J. Leukoc. Biol.* 84, 348-356.
- Lin, A. P.**, Bennett, E., Wisk, L. E., Gharib, M., Fraser, S. E., & Wen, H. (2008). Circumferential strain in the wall of the common carotid artery: Comparing displacement-encoded and cine MRI in volunteers. *Magn. Reson. Med.* 60, 8-13.
- Melenhorst, J. J., **Scheinberg, P.**, Lu, J., Ambrozak, D. R., Sosa, E., Zhao, L., Hensel, N. F., **Savani, B. N.**, Douek, D. C., Price, D. A., & Barrett, A. J. (2008). Regulatory T-cell depletion does not prevent emergence of new CD25(+) FOXP3(+) lymphocytes after antigen stimulation in culture. *Cytother.* 10, 152-164.
- Mielke, S.**, Nunes, R., **Rezvani, K.**, Fellowes, V. S., Venne, A., Solomon, S. R., Fan, Y., Gostick, E., Price, D. A., Scotto, C., Read, E. J., & Barrett, A. J. (2008). A clinical-scale selective allodepletion approach for the treatment of

- HLA-mismatched and matched donor-recipient pairs using expanded T lymphocytes as antigen-presenting cells and a TH9402-based photodepletion technique. *Blood* 111, 4392-4402.
- Minneci, P. C., Deans, K. J., Shiva, S., Zhi, H., Banks, S. M., Kern, S., Natanson, C., Solomon, S. B., & Gladwin, M. T. (2008). Nitrite reductase activity of hemoglobin as a systemic nitric oxide generator mechanism to detoxify plasma hemoglobin produced during hemolysis. *Am. J. Physiol. Heart Circ. Physiol.* 295, H743-H754.
- Pagel-Langenickel, I., Bao, J. J., Joseph, J. J., Schwartz, D. R., Mantell, B. S., Xu, X. L., Raghavachari, N., & Sack, M. N. (2008). PGC-1 alpha integrates insulin signaling, mitochondrial regulation, and bioenergetic function in skeletal muscle. *J. Biol. Chem.* 283, 22464-22472.
- Pisitkun, T., Hoffert, J. D., Yu, M. J., & Knepper, M. A. (2007). Tandem mass spectrometry in physiology. *Physiology* 22, 390-400.
- Rizzatti, E. G., Mora-Jensen, H., Weniger, M. A., Gibellini, F., Lee, E., Daibata, M., Lai, R., & Wiestner, A. (2008). Noxa mediates bortezomib induced apoptosis in both sensitive and intrinsically resistant mantle cell lymphoma cells and this effect is independent of constitutive activity of the AKT and NF-kappa B pathways. *Leukemia & Lymphoma* 49, 798-808.
- Rochman, Y. & Leonard, W. J. (2008). Thymic stromal lymphopoietin: a new cytokine in asthma. *Curr. Opin. Pharmacol.* 8, 249-254.
- Rosales, T., Xu, J. H., Wu, X. W., Hodosek, M., Callis, P., Brooks, B. R., & Knutson, J. R. (2008). Molecular dynamics simulations of perylene and tetracene librations: Comparison with femtosecond upconversion data. *J. Phys. Chem. A* 112, 5593-5597.
- Schones, D. E. & Zhao, K. (2008). Genome-wide approaches to studying chromatin modifications. *Nat. Rev. Genet.* 9, 179-191.
- Sloand, E. M. & Rezvani, K. (2008). The role of the immune system in myelodysplasia: Implications for therapy. *Semin. Hematol.* 45, 39-48.
- Smith, T. K., Hager, H. A., Francis, R., Kilkenny, D. M., Lo, C. W., & Bader, D. M. (2008). Bves directly interacts with GEFT, and controls cell shape and movement through regulation of Rac1/Cdc42 activity. *Proc. Natl. Acad. Sci. U. S. A* 105, 8298-8303.
- Takagi, Y., Yang, Y., Fujiwara, I., Jacobs, D., Cheney, R. E., Sellers, J. R., & Kovacs, M. (2008). Human myosin Vc is a low duty ratio, nonprocessive molecular motor. *J. Biol. Chem.* 283, 8527-8537.
- Tan, S. Y., Rosenthal, J., Zhao, X. Q., Francis, R. J., Chatterjee, B., Sabol, S. L., Linask, K. L., Bracero, L., Connelly, P. S., Daniels, M. P., Yu, Q., Omran, H., Leatherbury, L., & Lo, C. W. (2007). Heterotaxy and complex structural heart defects in a mutant mouse model of primary ciliary dyskinesia. *J. Clin. Invest.* 117, 3742-3752.
- Uawithya, P., Pisitkun, T., Ruttenberg, B. E., & Knepper, M. A. (2008). Transcriptional profiling of native inner medullary collecting duct cells from rat kidney. *Physiol. Genomics* 32, 229-253.
- Wagner, E. M., Jen, K. L. C., Artiss, J. D., & Remaley, A. T. (2008). Dietary \square -cyclodextrin lowers low-density lipoprotein cholesterol and alters plasma fatty acid profile in low-density lipoprotein receptor knockout mice on a high-fat diet. *Metabolism* 57, 1046-1051.
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- Xue, H. H., Jing, X. F., Bollenbacher-Reilley, J., Zhao, D. M., Haring, J. S., Yang, B. L., Liu, C. Y., Bishop, G. A., Harty, J. T., & Leonard, W. J. (2008). Targeting the GA binding protein beta 1L isoform does not perturb lymphocyte development and function. *Mol. Cell. Biol.* 28, 4300-4309.
- Zhang, J., Hawari, F. I., Shamburek, R. D., Adamik, B., Kaler, M., Islam, A., Liao, D. W., Rouhani, F. N., Ingham, M., & Levine, S. J. (2008). Circulating TNFR1 exosome-like vesicles partition with the LDL fraction of human plasma. *Biochem. Biophys. Res. Comm.* 366, 579-584.

Recent Publications by NHLBI Fellows

- Baek, K., Liu, X., Ferron, F., Shu, S., Korn, E. D., & Dominguez, R. (2008). Modulation of actin structure and function by phosphorylation of Tyr-53 and profilin binding. *Proc. Natl. Acad. Sci. U. S. A.* 105, 11748-11753.
- Blinova, K., Levine, R. L., Boja, E. S., Griffiths, G. L., Shi, Z. D., Ruddy, B., & Balaban, R. S.** (2008). Mitochondrial NADH fluorescence is enhanced by Complex I binding. *Biochem.* 47, 9636-9645.
- Hoffert, J. D., **Fenton, R. A.**, Moeller, H. B., **Simons, B.**, Tchapyjnikov, D., Mcdill, B. W., **Yu, M. J.**, Pisitkun, T., Chen, F., & Knepper, M. A. (2008). Vasopressin-stimulated increase in phosphorylation at Ser(269) potentiates plasma membrane retention of aquaporin-2. *J. Biol. Chem.* 283, 24571-24581.
- Hu, J. Q.**, Renaud, G., Golmes, T., Ferris, A., Hendrie, P. C., Donahue, R. E., Hughes, S. H., Wolfsberg, T. G., Russell, D. W., & Dunbar, C. E. (2008). Reduced genotoxicity of avian sarcoma leukosis virus vectors in rhesus long-term repopulating cells compared to standard murine retrovirus vectors. *Mol. Ther.* 16, 1617-1623.
- Islam, A., Jones, H., Hiroi, T., Lam, J., Zhang, J., Moss, J., Vaughan, M., & Levine, S. J.** (2008). cAMP-dependent protein kinase a (PKA) signaling induces TNFRI exosome-like vesicle release via anchoring of PKA regulatory subunit RII beta to BIG2. *J. Biol. Chem.* 283, 25364-25371.
- Jeong, W., Lee, D. Y., Park, S., & Rhee, S. G.** (2008). ERp16, an endoplasmic reticulum-resident thiol-disulfide oxidoreductase - Biochemical properties and role in apoptosis induced by endoplasmic reticulum stress. *J. Biol. Chem.* 283, 25557-25566.
- Li, X., Peterkofsky, A., & **Wang, G. S.** (2008). Solution structure of NPr, a bacterial signal-transducing protein that controls the phosphorylation state of the potassium transporter-regulating protein IIA(Ntr). *Amino Acids* 35, 531-539.
- Masson, M. J., Carpenter, L. D., Graf, M. L., & Pohl, L. R.** (2008). Pathogenic role of natural killer T and natural killer cells in acetaminophen-induced liver injury in mice is dependent on the presence of dimethyl sulfoxide. *Hepatology* 48, 889-897.
- Porat-Shliom, N., Kloog, Y., & Donaldson, J. G.** (2008). A unique platform for H-Ras signaling involving clathrin-independent endocytosis. *Mol. Biol. Cell* 19, 765-775.
- Sakamoto, T., Webb, M. R., Forgacs, E., White, H. D., & Sellers, J. R.** (2008). Direct observation of the mechano-chemical coupling in myosin Va during processive movement. *Nature* 455, 128-132.
- Vasu, S., Leitman, S. F., Tisdale, J. F., Hsieh, M. M., Childs, R. W., Barrett, A. J., Fowler, D. H., Bishop, M. R., Kang, E. M., Malech, H. L., Dunbar, C. E., Khuu, H. M., Wesley, R., Yau, Y. Y., & Bolan, C. D.** (2008). Donor demographic and laboratory predictors of allogeneic peripheral blood stem cell mobilization in an ethnically diverse population. *Blood* 112, 2092-2100.
- Vergarajauregui, S. & Puertollano, R.** (2008). Mucolipidoses type IV. *Autophagy* 4, 832-834.
- Vergarajauregui, S., Connelly, P. S., Daniels, M. P., & Puertollano, R.** (2008). Autophagic dysfunction in mucolipidoses type IV patients. *Hum. Mol. Gen.* 17, 2723-2737.
- Wang, H., Katagiri, Y., McCann, T. E., Unsworth, E., Goldsmith, P., Yu, Z. X., Tan, F., Santiago, L., Mills, E. M., Wang, Y., Symes, A. J., & Geller, H. M.** (2008). Chondroitin-4-sulfation negatively regulates axonal guidance and growth. *J. Cell Sci.* 121, 3083-3091.
- Yong, A. S. M., Keyvanfar, K., Eniafe, R., Savani, B. N., Rezvani, K., Sloand, E. M., Goldman, J. M., & Barrett, A. J.** (2008). Hematopoietic stem cells and progenitors of chronic myeloid leukemia express leukemia-associated antigens: implications for the graft-versus-leukemia effect and peptide vaccine-based immunotherapy. *Leukemia* 22, 1721-1727.

Mark Your Calendar!
NHLBI Fellows Retreat, April 2-3, 2009
Annapolis, Maryland