

CCR MANUSCRIPT NOTIFICATION (AUGUST 2010)

Laboratory of Immune Cell Biology - Jonathan Ashwell, M.D.

There were no submissions reported this month.

Vaccine Branch - Jay Berzofsky, M.D., Ph.D.

There were no submissions reported this month.

CCR Nanobiology Program - Robert Blumenthal, Ph.D.

Afonin KA, Bindewald E, Yaghoubian AJ, **Shapiro BA**, and Jaeger L: In vitro assembly of three-dimensional RNA-based scaffolds designed In silico. Nature Nanotechnol. In press. (CCRNP)

Chen W, Xiao X, Wang Y, Zhu Z, and **Dimitrov DS**: Bifunctional fusion proteins of the human engineered antibody domain m36 with human soluble CD4 are exceptionally potent inhibitors of diverse HIV-1 isolates. Antiviral Res. In press. (CCRNP)

Ramakrishnan B, Boeggeman E, Pasek M, and **Qasba PK**: Bioconjugation using glycosyltransferases for the site-specific labeling of biomolecules with sugars carrying chemical handles. Methods Mol. Biol. Bioconjug. Protocols. In press. (CCRNP)

Xiao X, Zhu Z, Dankmeyer JL, Wormald MM, Fast RL, Worsham PL, Cote CK, Amemiya K, **Dimitrov DS**: Human anti-plague monoclonal antibodies protect mice from *Yersinia pestis* in a bubonic plague model. PLoS ONE. In press. (CCRNP)

Puri A: Nanoparticles: Crossing barriers and membrane interactions. Mol. Memb. Biol. In press. (CCRNP; PI: **Blumenthal R**)

Laboratory of Population Genetics - Kenneth Buetow, Ph.D.

There were no submissions reported this month.

Molecular Discovery Program - R. Andrew Byrd, Ph.D.

Structural Biophysics Laboratory - R. Andrew Byrd, Ph.D.

There were no submissions reported this month.

Molecular Targets Laboratory - James McMahon, Ph.D.

There were no submissions reported this month.

Chemical Biology Laboratory - Joel Schneider, Ph.D.

Zhang Y, Li Q, Rodriguez LG, and **Gildersleeve JC**: An array-based method to Identify multivalent inhibitors. *J Am Chem Soc.* 132: 9653-9662, 2010. (CBL)

Moon HR, Siddiqui MA, Sun G, Filippov IV, Landsman NA, Lee YC, Adams KM, **Barchi Jr JJ**, Deschamps JR, **Nicklaus MC**, **Kelley JA**, and **Marquez VE**: Using Conformationally locked nucleosides to calibrate the anomeric effect: implications for glycosyl bond stability. *Tetrahedron.* 66: 6707-6717, 2010. (CBL)

Radiation Oncology Branch - Kevin Camphausen, M.D.

There were no submissions reported this month.

Molecular Imaging Program - Peter Choyke, M.D.

There were no submissions reported this month.

Laboratory of Cancer Prevention - Nancy Colburn, Ph.D.

Zhang Z, Lanza E, Kris-Etherton PM, **Colburn NH**, Bagshaw D, Rovine MJ, Ulbrecht JS, Bobe G, Chapkin RS, and Hartman TJ: A High Legume Low Glycemic Index Diet Improves Serum Lipid Profiles in Men. *Lipids.* In press. (LCP)

Tichelaar JW, Yan Y, Tan Q, Wang Y, Estensen RD, Young MR, **Colburn NH**, Yin H, Goodin C, Anderson MW, and You M: A Dominant-Negative c-jun Mutant Inhibits Lung Carcinogenesis in Mice. *Cancer Prev Res (Phila Pa).* In press. (LCP)

Umehara D, Watanabe S, Ochi H, Anai Y, Ahmed N, Kannagi M, Hanson C, **Ruscetti S**, and Nishigaki K: Role of phosphatidylinositol 3-kinase in friend spleen focus-forming virus-induced erythroid disease. *J. Virol.* 84(15): 7675-7682, 2010. (LCP)

Neuro-Oncology Branch - Howard Fine, M.D.

There were no submissions reported this month.

Medical Oncology Branch - Giuseppe Giaccone, M.D., Ph.D.

Hollander MC, Maier CR, Hobbs EA, Ashmore AR, Linnoila RI, and **Dennis PA**: Akt1 deletion prevents lung tumorigenesis by mutant K-ras. *Oncogene*. In press. (MOB)

Memmott RM, Mercado JR, Maier CR, Kawabata S, Fox SD, and **Dennis PA**: Metformin prevents tobacco carcinogen-induced lung tumorigenesis. *Cancer Prevention Res*. In press. (MOB)

Dohse M, Scharenberg C, Shukla S, Robey RW, Volkmann T, Deeken JF, Brendel C, **Ambudkar SV**, Neubauer A, **Bates SE**: Comparison of ATP-binding cassette transporter interactions with the tyrosine kinase inhibitors imatinib, nilotinib, and dasatinib. *Drug Metab Dispos*. 38(8): 1371-1380, 2010. (MOB)

Price DK, Chau CH, Till C, Goodman PJ, Baum CE, Ockers SB, English BC, Minasian L, Parnes HL, Hsing AW, Reichardt JKV, Hoque A, Tangen CM, Kristal AR, Thompson IM, and **Figg WD**: Androgen Receptor CAG Repeat Length and Association with Prostate Cancer Risk: Results from the Prostate Cancer Prevention Trial. *J. Urol*. In press. (MOB)

Smith NF, Mani S, Schuetz EG, Sissung T, Yasuda K, Xi Z, **Bates SE**, **Figg WD**, and Sparreboom A: Induction of Cytochrome P4503A4 by Vinblastine: Role of the Nuclear Receptor NR112. *Ann. Pharmacother*. In press. (MOB)

Gardner ER, Springman E, Kelly M, Li H, Moore W, and **Figg WD**: Antiangiogenic and Antitumor Activity of LP-261, a Novel Oral Tubulin binding Agent, Alone and in Combination with Bevacizumab. *Invest. New Drugs*. In press. (MOB)

Burbelo PD, Browne SK, Sampaio EP, **Giaccone G**, Zaman R, Kristosturyan E, Rajan A, Ding L, Ching KH, Berman A, Oliveira JB, Hsu AP, Klimavicz CM, Iadarola MJ, and Holland SM: Anti-cytokine autoantibodies are associated with opportunistic infection in patients with thymic neoplasia. *Blood*. In press. (MOB)

Kelly RJ, Carter C, and **Giaccone G**: Personalizing Therapy in an Epidermal Growth Factor Receptor-Tyrosine Kinase Inhibitor-Resistant Non-Small-Cell Lung Cancer Using PF-00299804 and Trastuzumab. *J Clin Oncol*. In press. (MOB)

Kelly RJ, Browne SK, Rajan A, and **Giaccone G**: Thymoma-associated paraneoplastic polymyositis. *J Clin Oncol*. 28(22): e378, 2010. (MOB)

Trepel J, Mollapour M, **Giaccone G**, and **Neckers L**: Targeting the dynamic HSP90 complex in cancer. *Nat Rev Cancer*. 10(8): 537-549, 2010. (MOB)

Quinlan SC, **Landgren O**, Morton LM, and Engels EA: Hodgkin Lymphoma Among US Solid Organ Transplant Recipients. *Transplantation*. In press. (MOB)

Landgren O, Rajkumar SV, Pfeiffer RM, Kyle RA, Katzmann JA, Dispenzieri A, Cai Q, Goldin LR, Caporaso NE, Fraumeni JF, Blot WJ, and Signorello LB: Obesity is associated with an increased risk of monoclonal gammopathy of undetermined significance among black and white women. *Blood*. 116(7): 1056-1059, 2010. (MOB)

Yancey MA, Waxman AJ, and **Landgren O**: A case study progression to multiple myeloma. *Clin J Oncol Nurs*. 14(4): 419-422, 2010. (MOB)

Waxman AJ, Kuehl M, Balakumaran A, Weiss B, and **Landgren O**: Smoldering (asymptomatic) multiple myeloma: revisiting the clinical dilemma and looking into the future. *Clin Lymphoma Myeloma Leuk*. 10(4): 248-257, 2010. (MOB)

Laboratory of Metabolism - Frank Gonzalez, Ph.D.

There were no submissions reported this month.

Laboratory of Cell Biology - Michael Gottesman, M.D.

Abraham I, Jain S, Wu C-P, Khanfar MA, Kuang Y, Shi Z, Chen X, Fu L-W, **Ambudkar SV**, Sayed KE, and Chen Z-S: Marine sponge-derived siphonane triterpenoids reverse P-glycoprotein-mediated multidrug resistance in cancer cells. *Biochem. Pharmacol*. In press. (LCB)

Arispe N, Diaz J, Durell SR, Shafrir Y, and **Guy HR**: Polyhistidine Peptide Inhibitor of the Abeta Calcium Channel Potently Blocks the Abeta-Induced Calcium Response in Cells. *Theoretical Modeling Suggests a Cooperative Binding Process*. *Biochemistry*. In press. (LCB)

Calcagno AM, Salcido CD, Gillet J-P, Wu C-P, Fostel JM, Mumau MD, **Gottesman MM**, Varticovski L, and **Ambudkar SV**: Prolonged Drug Selection of Breast Cancer Cells and Enrichment of Cancer Stem-Cell Characteristics. *J Natl Cancer Inst*. In press. (LCB)

Mi Y-J, Liang Y-J, Huang H, Zhao H-Y, Wu C-P, Wang F, Tao L-Y, Zhang C-Z, Dai C-L, Tiwari AK, Ma X-U, To KKW, **Ambudkar SV**, Chen Z-S, and Fu L-W: Apatinib (YN968D1) reverses multidrug resistance by inhibiting the efflux function of multiple ATP-binding cassette transporters. *Cancer Res*. In press. (LCB)

Miyamura Y, Coelho SG, Schlenz K, Batzer J, Smuda C, Choi W, Brenner M, Passeron T, Zhang G, Kolbe L, Wolber R, and **Hearing VJ**: The deceptive nature of UVA-tanning versus the modest protective effects of UVB-tanning on human skin. *Pigment Cell Melanoma Res*. In press. (LCB)

Experimental Transplantation and Immunology Branch - Ronald Gress, M.D.

There were no submissions reported this month.

Laboratory of Receptor Biology and Gene Expression - Gordon Hager, Ph.D.

Wiench M and **Hager GL**: Expanding horizons for nuclear receptors. EMBO Reports. 8: 569-571, 2010. (LRBGE)

Hager GL: Footprints by deep sequencing. Nature Methods. 6: 254-255, 2010. (LRBGE)

Stasevich TJ, Mueller F, Michelman-Ribeiro A, Rosales T, Knutson J, and **McNally JG**: Cross validating FRAP and FCS to quantify the impact of photobleaching on in vivo binding estimates. Biophys. J. In press. (LRBGE)

Laboratory of Human Carcinogenesis - Curtis Harris, M.D.

There were no submissions reported this month.

HIV Drug Resistance Program - Stephen Hughes, Ph.D.

HIV DRP Host Virus Interaction Branch - Stephen Hughes, Ph.D.

There were no submissions reported this month.

Retroviral Replication Laboratory - Stephen Hughes, Ph.D.

There were no submissions reported this month.

Laboratory of Comparative Carcinogenesis - Larry Keefer, Ph.D.

There were no submissions reported this month.

Cell and Cancer Biology Branch - Kathleen Kelly, Ph.D.

There were no submissions reported this month.

Urologic Oncology Branch - W. Marston Linehan, M.D.

There were no submissions reported this month.

Laboratory of Cellular Oncology - Douglas Lowy, M.D.

There were no submissions reported this month.

Pediatric Oncology Branch - Crystall Mackall, M.D.

There were no submissions reported this month.

Genetics Branch - Paul Meltzer, M.D., Ph.D.

There were no submissions reported this month.

Lab of Cancer Biology & Genetics - Glenn Merlino, PhD and Stuart Yuspa, MD

Sengupta A, Lichti UF, Carlson BA, Ryscavage AO, Gladyshev VN, **Yuspa SH**, and **Hartfield DL**: Selenoproteins are essential for proper keratinocyte function and skin development. PloS ONE. In press. (LCBG)

Dazhi Y, Kedei N, Li L, Tao J, Velasquez JF, Toth BI, Marincsak R, Varga A, Biro T, **Yuspa SH** and **Blumberg PM**: RasGRP3 contributes to formation and maintenance of the prostate cancer phenotype. Cancer Res. In press. (LCBG)

Divi RL, Einem TL, Leonard Fletcher SL, Shockley ME, Kuo MM, St. Claire MC, Cook A, Nagashima K, Harbaugh SW, Harbaugh JW and **Poirier MC**: Progressive mitochondrial compromise in brains and livers of primates exposed in utero to nucleoside reverse transcriptase inhibitors (NRTIs). Toxicological Sciences. In press. (LCBG)

Klug HLP, Tooze JA, Graff-Cherry C, **Anver MR**, Noonan FP, Fears TR, Tucker MA, De Fabo EC and **Merlino G**: Sunscreen prevention of melanoma in man and mouse. Pigment cell & melanoma research. In press. (LCBG)

Radiation Biology Branch - James Mitchell, Ph.D.

There were no submissions reported this month.

Laboratory of Cell and Developmental Signaling - Debbie Morrison, Ph.D.

There were no submissions reported this month.

Laboratory of Pathology - J. Carl Oberholtzer, M.D., Ph.D.

Hong SB, Oh H, Valera VA, Stull J, Ngo DT, Baba M, **Merino MJ**, **Linehan WM**, and Schmidt LS: Tumor suppressor FLCN inhibits tumorigenesis of a FLCN-null renal cancer cell line and regulates expression of key molecules in TGF-beta signaling. Mol. Cancer. 9: 160, 2010. (LP)

Jasper GA, Arun I, Venzon D, **Kreitman RJ**, **Wayne A**, Yuan CM, Marti GE, and **Stetler-Stevenson M**: Variables affecting the quantitation of CD22 in neoplastic B cells. Clin. Cytomet. In press. (LP)

Navarathna DHMLP and **Roberts DD**: *Candida albicans* heme oxygenase and its product CO contribute to the pathogenesis of candidemia and alter systemic chemokine and cytokine expression. Free Radic. Biol. Med. In press. (LP)

Orlov NC, Chen WC, Eckley DM, Macura TJ, Shamir L, **Jaffe ES** and Goldberg IG: Automatic classification of lymphoma images with transform-based global features. IEEE Trans. Inf. Technol. Biomed. 14(4): 1003-1013, 2010. (LP)

Turkbey B, Xu S, Kruecker J, Locklin J, Pang Y, Bernardo M, **Merino MJ**, Wood BJ, **Choyke PL**, and **Pinto PA**: Documenting the location of prostate biopsies with image fusion. BJU Int. In press. (LP)

Zucali PA, Petrini I, Lorenzi E, **Merino MJ**, Cao L, Di Tommaso L, Lee HS, Incarbone M, Walter BA, Simonelli M, Roncalli M, Santoro A, and **Giaccone G**: Insulin-like growth factor-1 receptor and phosphorylated AKT-serine 473 expression in 132 resected thymomas and thymic carcinomas. Cancer. In press. (LP)

Laboratory of Genomic Diversity - Stephen O'Brien, Ph.D.

Sezgin E, Drosdak M, McIntosh C, Kessing B, Lautenberger JA, Goedert JJ, Phair JP, Troyer JL, Smith MW and **O'Brien SJ**: Examination of disease-based selection, demographic history and population structure in European Y-chromosome haplogroup I. J. Hum. Genet. In press. (LGD)

Chinn LW, Tang M, Kessing BD, Lautenberger JA, Troyer JL, Malasky MJ, McIntosh C, Goedert JJ, Bream JH, Buchbinder SP, Gomperts ED, Kirk GD and **O'Brien SJ**: Genetic association of variants in genes encoding HIV-dependence factors (HDGs) required for HIV-1 infection. J. Infect. Dis. In press. (LGD)

Hendrickson SL, Lautenberger J, Chinn L, Malasky M, Sezgin E, Kingsley LA, Goedert JJ, Kirk GD, Gomperts ED, Buchbinder SP, Troyer J and **O'Brien SJ**: Genetic variants in nuclear-encoded mitochondrial genes influence AIDS progression. PloS ONE. In press. (LGD)

Lab of Molecular Biology - Ira Pastan, M.D. and Susan Gottesman, Ph.D.

Kim C, Basner J, and **Lee B**: Detecting internally symmetric protein structures. BMC Bioinformatics. 11: 303, 2010. (LMB)

Guigon CJ, Fozzatti L, Lu C, Willingham MC, and **Cheng SY**: Inhibition of mTORC1 signaling reduces tumor growth but does not prevent cancer progression in a mouse model of thyroid cancer. *Carcinogenesis*. 31: 1284-1291, 2010. (LMB)

Mishra Z, Zhu X, Ge K, and **Cheng SY**: Differential impairment of adipogenesis by thyroid hormone receptor mutant isoforms. *J. Mol. Endocrinol.* 44: 247-255, 2010. (LMB)

Cancer & Developmental Biology Lab. - Alan Perantoni, Ph.D.

Andersson ER, Bryjova L, Biris K, **Yamaguchi TP**, Arenas E, and Bryja V: Genetic interaction between Lrp6 and Wnt5a during mouse development. *Dev. Dyn.* 239: 237-245, 2010. (CDBL)

Lindqvist M, Horn Z, Bryja V, Schulte G, Papachristou P, Ajima R, Dyberg C, Arenas E, **Yamaguchi TP**, Lagercrantz H, and Ringstedt T: Vang-like protein 2 and Rac1 interact to regulate adherens junctions. *J. Cell Sci.* 123: 472-483, 2010. (CDBL)

Matsumoto K, Irie F, **Mackem S**, and Yamaguchi Y: A mouse model of chondrocyte-specific somatic mutation reveals a role for Ext1 loss of heterozygosity in multiple hereditary exostoses. *Proc. Natl. Acad. Sci. U.S.A.* 107: 10932-10937, 2010 (CDBL)

Maes C, Kobayashi T, Selig MK, Roth SI, **Mackem S** and Kronenberg HM: Osteoblast precursors, but not mature osteoblasts, move into developing and fractured bones along with invading blood vessels. *Dev. Cell.* 19: 329-344, 2010. (CDBL)

Liu Q, Zahirnyk O, Wang H, Shiao YH, Nickerson ML, Khalil S, **Anderson LM**, **Perantoni AO**, and **Phang JM**: miR-23b* targets proline oxidase, a novel tumor suppressor protein in renal cancer. *Oncogene*. In press. (CDBL)

Wang H, Yang Y, Sharma N, Tarasova NI, Timofeeva OA, Winkler-Pickett RT, Tanigawa S and **Perantoni AO**: STAT1 activation regulates proliferation and differentiation of renal progenitors. *Cellular Signalling*. In press. (CDBL)

Sebastian A, Matsushita T, Kawanami A, **Mackem S**, Landreth G and Murakami S: Genetic inactivation of ERK1 and ERK2 in chondrocytes promotes bone growth and enlarges the spinal canal. *J. Orthopaedic Res.* In press. (CDBL)

Hernandez L, Roux KJ, Wong ESM, Mounkes LC, Mutalif R, Navasankari R, Rai B, Cool S, Jeong J-W, Wang H, Lee H-S, Kozlov S, Brunert M, Keeble T, Jones CM, Meta MD, Young SG, **Daar IO**, Burk B, **Perantoni AO** and Stewart CL: Functional coupling between the extracellular matrix and nuclear lamina by Wnt signaling in progeria. *Developmental Cell*. In press. (CDBL)

Laboratory of Molecular Pharmacology - Yves Pommier, M.D., Ph.D.

Xu D, Muniandy P, Leo E, Yin J, Thangavel S, Shen X, Li M, Agama, K, Guo R, Fox III D, Meetei AR, Wilson L, Nguyen H, Weng NP, Brill SJ, Li J, Vindigni A, **Pommier Y**, Seidman M, and Wang W: Rif1 provides a new DNA-binding interface for the Bloom syndrome complex to maintain normal replication. EMBO J. In press. (LMP)

Iida Y, Kim JH, Kazuki Y, Hoshiya H, Takiguchi M, Hayashi M, Erliandri I, Lee HS, Samoshkin A, Masumoto H, Earnshaw WC, Kouprina N, **Larionov V**, and Oshimura M: Human artificial chromosome with a conditional centromere for gene delivery and gene expression. DNA Res. In press. (LMP)

Surgery Branch - Steven Rosenberg, M.D., Ph.D.

There were no submissions reported this month.

Mammary Biology & Tumorigenesis Lab – David Salomon, Ph.D. (Acting Lab Chief)

There were no submissions reported this month.

Laboratory of Cellular and Molecular Biology - Larry Samelson, M.D.

There were no submissions reported this month.

Laboratory of Tumor Immunology and Biology - Jeffrey Schlom, Ph.D.

Schlom J: The MUC-1 oncoprotein as a target in hematologic malignancies. [Commentary to Yin et al. Terminal differentiation of chronic myelogenous leukemia cells is induced by targeting of the MUC1-C oncoprotein]. Cancer Biol Ther. In press. (LTIB)

Experimental Immunology Branch - Alfred Singer, M.D.

There were no submissions reported this month.

Gene Regulation and Chromosome Biology Lab - Jeffrey Strathern, Ph.D.

There were no submissions reported this month.

Laboratory of Experimental Carcinogenesis - Snorri Thorgeirsson, M.D., Ph.D.

Lee Y-H, Andersen JB, Song H-T, Judge AD, Seo D, Ishikawa T, Marquardt JU, Kitade M, Durkin M, Raggi C, Woo HG, Conner EA, **Avital I**, MacLachlan I, Factor VM and **Thorgeirsson SS**:

Definition of ubiquitination modulator COP1 as a novel therapeutic target in human hepatocellular carcinoma. *Cancer Res.* In press. (LEC)

Factor VM, Seo D, Ishikawa T, Kaposi-Novak P, Marquardt JU, Andersen JB, Conner EA, and **Thorgeirsson SS**: Loss of c-Met Disrupts Gene Expression Program Required for G2/M Progression during Liver Regeneration in Mice. *PLoS One.* In press. (LEC)

Cancer and Inflammation Program - Giorgio Trinchieri, M.D.

Laboratory of Molecular Immunoregulation - Joost Oppenheim, M.D.

There were no submissions reported this month.

Laboratory of Experimental Immunology - Giorgio Trinchieri, M.D.

There were no submissions reported this month.

Dermatology Branch - Mark Udey, M.D., Ph.D.

There were no submissions reported this month.

Mouse Cancer Genetics Program - Terry Van Dyke, Ph.D.

There were no submissions reported this month.

Metabolism Branch - Thomas Waldmann, M.D.

There were no submissions reported this month.

Laboratory of Protein Dynamics & Signaling - Allan Weissman, M.D.

Tsai YC, Maditz RP, Kuo C, Fishman PS, Shoemaker C, Oyler GA and **Weissman AM**: Targeting Botulinum Neurotoxin Persistence by the Ubiquitin-Proteasome System. *Proc. Natl. Acad. Sci. USA.* In press. (LPDS)

Tsai YC and **Weissman AM**: The Unfolded Protein Response, Degradation from Endoplasmic Reticulum and Cancer. *Genes and Cancer.* In press. (LPDS)

Macromolecular Crystallography Laboratory - Alexander Wlodawer, Ph.D.

There were no submissions reported this month.

Laboratory of Biochemistry and Molecular Biology - Carl Wu, Ph.D.

There were no submissions reported this month.

HIV and AIDS Malignancy Branch - Robert Yarchoan, M.D.

Majerciak V, Deng M, and **Zheng Z-M**: Requirement of UAP56, URH49, RBM15, and OTT3 in expression of Kaposi sarcoma-associated herpesvirus ORF57. *Virology*. In press. (HAMB)

Basic Research Laboratory

There were no submissions reported this month.

Emeritus Scientists

Victor Marquez

Nagel S, Venturini L, **Marquez VE**, Meyer C, Kaufmann M, Scherr M, MacLeod R, and Drexler HG: Polycomb repressor complex 2 regulates HOXA9 and HOXA10, activating ID2 in NK/T-cell lines. *Molecular Cancer*. 9(151): 1-12, 2010. (CBL)