

## Biochemistry and Biophysics 2005 Publications

### Ahern, Kevin

#### Columns

Ahern, K. "WebWatch", *BioTechniques* (2005) Vol. 38, 6 columns.

Ahern, K. "WebWatch", *BioTechniques* (2005) Vol. 39, 6 columns.

Ahern, K. "On the Web", *Gen. Eng. News* (2005) Vol. 25, 21 columns.

#### Technical Articles

Ahern, K. "Molecular Biology Software 2005" *Gen. Eng. News*, Mary Ann Liebert, Inc., Publishers (2005), Vol. 25, #16, p. 31-37.

### Anderson, Sonia

McCullar, J.S., Malencik, D.A., Vogel, W.K., Crofoot, K.M., Anderson, S.R. and Filtz, T.M. (2006) Calmodulin potentiates G-protein activation of phospholipase C-3. *Biochem. Pharmacol.* **73** (2), 270-278.

### Baird, William

Mahadevan, B., Marston, C., Dashwood, W., Li, Y., Pereira, C. and Baird, W.M. (2005) Effect of a standardized complex mixture derived from coal tar on the metabolic activation of carcinogenic polycyclic aromatic hydrocarbons in human cells in culture. *Chem. Res. Toxicol.* **18**(2), 224-31.

Mahadevan, B., Keshava, S., Musafia-Jeknic, T., Pecaj, A., Weston, A. and Baird, W.M. (2005) Altered gene expression patterns in MCF-7 cells induced by the urban dust particulate complex mixture SRM 1649a. *Cancer Research* **65**(4), 1257-58.

Reliene, R., Hlavacova, A., Mahadevan, B., Baird, W.M. and Schiestl, R.H. (2005) Diesel exhaust particles cause increased levels of DNA deletions after transplacental exposure in mice. *Mutat. Res.* **570**(2), 245-252.

Hooven, L.A., Mahadevan, B., Keshava, C., Johns, C., Pereira, C., Desai, D., Amin, S., Weston, A. and Baird, W.M. (2005) Effects of Suberoylanilide hydroxamic acid and Trichostatin A on Induction of Cytochrome P450 enzymes and benzo[a]pyrene DNA adduct formation in human cells. *Bioorg. Med. Chem. Lett.* **15**(15), 1283-1287.

Baird, W.M., Hooven, L.A. and Mahadevan, B. (2005) Carcinogenic polycyclic aromatic hydrocarbon-DNA adducts and mechanism of action. *Environ. Mol. Mutagen.* **45**, 106-114.

Musafia-Jeknic, T., Luch, A., Seidel, A., Johns, C., Pereira, C. and Baird, W.M. (2005) Effect Of Nucleotide Sequence on the Binding of (-)-Anti-Dibenzo-[a,l]Pyrene-11,12-Diol 13,14-Epoxide to Short Oligodeoxyribonucleotides. *Polycyclic Aromatic Hydrocarbons* **25**, 103-111.

Mahadevan, B., Mata, J.E., Albershardt, D.J., Stevens, J.F., Pereira, C.B., Rodriguez-Proteau, R. and Baird, W.M. (2005) The effects of red raspberry extract on PAH transport across Calu-3 cell monolayer, an *in vitro* cell model. *Int. J. Cancer Prev.* **2**, 129-141.

- Mahadevan, B., Luch, A., Bravo, C.F., Atkin, J., Steppan, L.B., Pereira, C., Kerkvliet, N.I. and Baird, W.M. (2005) Dibenzo[*a,l*]pyrene induced systemic DNA adduct formation in lung tissue *in vivo*. *Cancer Letters* **227**, 25-32.
- Musafia-Jeknic, T., Mahadevan, B., Pereira, C. and Baird, W.M. (2005) Long Term Effects of a Standardized Complex Mixture of Urban Dust Particulate on the Metabolic Activation of Carcinogenic Polycyclic Aromatic Hydrocarbons in Human Cells. *Toxicological Sciences* **88**(2), 358-366.
- Reliene, R., Hlavacova, A., Mahadevan, B., Baird, W.M. and Schiestl, R.H. (2005) Diesel exhaust particles cause increased levels of DNA deletions after transplacental exposure in mice. *Mutat Res.* **570**(2), 245-52.

### **Barbar, Elisar**

Nyarko A, Cochrun L, Norwood S, Pursifull N, Voth A and Barbar, E. (2005) Ionization of His 55 at the dimer interface of dynein light-chain LC8 is coupled to dimer dissociation. *Biochemistry*. **44**, 14248–14255.

### **Beckman, Joe**

- Cassina, P., Pehar, M., Vargas, M.R., Castellanos, R., Barbeito, A.G., Estévez, A.G., Thompson, J.A., Beckman, J.S., Barbeito, L. (2005) Astrocyte activation by fibroblast growth factor-1 and motor neuron apoptosis: Implications for amyotrophic lateral sclerosis. *J. Neurochem.* **93**, 38–46.
- Ermilova, I.P., Ermilov, V.B., Levy, M., Ho, E., Pereira, C., Beckman, J.S. (2005) Protection by dietary zinc in ALS mutant G93A SOD transgenic mice. *Neurosci. Lett.* **379**, 42–46.
- Pehar, M., Vargas, M.R., Cassina, P., Barbeito, A.G., Beckman, J.S., Barbeito, L. (2005) Complexity of astrocyte-motor neuron interactions in amyotrophic lateral sclerosis. *Neurodegener Dis.* **2**, 139–46. Review.
- Robinson, K.M. and Beckman, J.S. (2005) Synthesis of peroxynitrite from nitrite and hydrogen peroxide. In *Methods Enzymol.* **396**, 207–214.

Vargas, M.R., Pehar, M., Cassina, P., Martinez-Palma, L., Thompson, J.A., Beckman, J.S., Barbeito, L. (2005) Fibroblast growth factor-1 induces heme oxygenase-1 via nuclear factor erythroid 2-related factor 2 (Nrf2) in spinal cord astrocytes: consequences for motor neuron survival. *J Biol Chem.* **280**, 25571–25579.

### **Frei, Balz**

- Higdon, J.V., and Frei, B. (2005) Is there a gender difference in the effect of antioxidants on cancer risk? *Br. J. Nutr.* **93**, 139-40.
- Hathcock, J.N., Frei, B., Lawson, S., and Johnston, C. (2005) Reply to L Massey. *Am. J. Clin. Nutr.* **82**, 489.
- Hathcock, J.N., Azzi, A., Blumberg, J., Dickinson, A., Frei, B., Traber, M.G., Johnston, C.S., Kraemer, K., Parthasarathy, S. and Packer, L. (2005) Reply to H Hemilä. *Am. J. Clin. Nutr.* **82**, 1142-1143.
- Widlansky, M.E., Duffy, S.J., Hamburg, N.M., Gokce, N., Warden, B.A., Wiseman, S., Keaney, J.F., Jr., Frei, B. and Vita, J.A. (2005) Effects of black tea consumption on plasma catechins and markers of

oxidative stress and inflammation in patients with coronary artery disease. *Free Radic. Biol. Med.* **38**, 499-506.

Hathcock, J.N., Azzi, A., Blumberg, J., Bray, T., Dickinson, A., Frei, B., Jialal, I., Johnston, C.S., Kelly, F.J., Kraemer, K., Packer, L., Parthasarathy, S., Sies, H. and Traber, M.G. (2005) Vitamins E and C are safe across a broad range of intakes. *Am. J. Clin. Nutr.* **81**, 736-745.

Stone, P.H., Lloyd-Jones, D.M., Kinlay, S., Frei, B., Carlson, W., Rubenstein, J., Andrews, T.C., Johnstone, M., Sopko, G., Cole, H., Orav, J., Selwyn, A.P., Creager, M.A., Vascular Basis Study Group (2005) Effect of intensive lipid lowering, with or without antioxidant vitamins, compared with moderate lipid lowering on myocardial ischemia in patients with stable coronary artery disease: the Vascular Basis for the Treatment of Myocardial Ischemia Study. *Circulation* **111**, 1747-1755.

Doulias, P.T., Nousis, L., Zhu, B.Z., Frei, B. and Galaris, D. (2005) Protection by tropolones against H<sub>2</sub>O<sub>2</sub>-induced DNA damage and apoptosis in cultured Jurkat cells. *Free Radic. Res.* **39**, 125-135.

Back, S.A., Luo, N.L., Mallinson, R.A., O'Malley, J.P., Wallen, L.D., Frei, B., Morrow, J.D., Petito, C.K., Roberts, C.T. and Murdoch, G.H. and Montine, T.J. (2005) Selective vulnerability of preterm white matter to oxidative damage defined by F<sub>2</sub>-isoprostanes. *Ann. Neurol.* **58**, 108-120.

Sowell, J., Conway, H.M., Bruno, R.S., Traber, M.G., Frei, B. and Stevens, J.F. (2005) Ascorbylated 4-hydroxy-2-nonenal as a potential biomarker of oxidative stress response. *J. Chromatogr B* **15**, 139-145.

### **Greenwood, Jeffrey**

Fraley, T.S., Pereira, C.B., Tran, T.C., Singleton, C., and Greenwood, J.A. (2005) Phosphoinositide binding regulates  $\square$ -actinin dynamics: mechanism for modulating cytoskeletal remodeling. *J. Biol. Chem.* **280**, 15479-15482.

Tran, T.C., Singleton, C., Fraley, T.S., and Greenwood, J.A. (2005) Cysteine-rich protein 1 (CRP1) regulates actin filament bundling. *BMC Cell Biology*, **6** (December), 45.

### **Hagen, Tory**

Judge, S, Jang, Y.M, Smith, A.R., Selman, C., Phillips, T., Speakman, J., Hagen, T.M. and Leeuwenburgh, C. (2005) Lifelong voluntary wheel running reduces subsarcolemmal and interfibrillar mitochondrial hydrogen peroxide production in heart: a possible mechanism for the increase in mean lifespan observed with exercise. *FASEB J.* **10**, 1096/fj.04-2622fje.

Moreau R, Nguyen BT, Doneanu CE, Hagen TM. (2005) Reversal by aminoguanidine of the age-related increase in glycoxidation and lipoxidation in the cardiovascular system of Fischer 344 rats. *Biochem Pharmacol.* **69**, 29-40.

Suh, J.H., Moreau, R., Heath, S-H. and Hagen, T.M. (2005) Dietary supplementation with (R)- $\alpha$ -lipoic acid reverses the age-related accumulation of iron and depletion of antioxidant status in the brain. *Redox Report.* **10**, 52-60.

Marley K, Mooney DT, Clark-Scannell G, Tong TT, Watson J, Hagen TM, Stevens JF, Maier CS. (2005) Mass tagging approach for mitochondrial thiol proteins. *J Proteome Res.* **4**, 1403-1412.

## **Ho, P. Shing**

- Mok, M.C., Martin, R.C., Dobrev, P.I., Vanková, R., Ho, P.S., Yonekura-Sakakibara, K., Sakakibara, H. and Mok, D.W.S. (2005) Topolin and hydroxylated thidiazuron derivatives are substrates of cytokinin *O*-glucosyltransferase with position specificity related to receptor recognition. *Plant Physiology* **137**, 1057-1066.
- Hays, F. A., Teegarden, A., Jones, Z.J.R., Harms, M., Raup, D., Watson, J., Cavaliere, E. and Ho, P.S. (2005) How sequence defines structure: A crystallographic map of DNA structure and conformation. *Proc. Natl. Acad. Sci. USA* **102**, 7157-7162.

## **Karplus, P. Andrew**

- Sarma, G.N., Nickel, C., Rahlfs, S., Fischer, M., Becker, K., and Karplus, P.A. (2005) Crystal structure of a novel *Plasmodium falciparum* 1-cys peroxiredoxin. *J. Mol. Biol.* **346**, 1021-1034.
- Parsonage, D., Youngblood, D.S., Sarma, G.N., Wood, Z.A., Karplus, P.A. and Poole, L.B. (2005) Analysis of the link between enzymatic activity and oligomeric state in AhpC, a bacterial peroxiredoxin. *Biochemistry*, **44**, 10583-10592.
- Roberts, B.R., Wood, Z.A., Jönsson, T.J., Poole, L.B. and Karplus, P.A. (2005) Oxidized and synchrotron cleaved structures of the disulfide redox center in the N-terminal domain of *Salmonella typhimurium* AhpF. *Prot. Sci.* **14**, 2414-20.
- Sarma, G.N., Manning, V., Ciuffetti, L. and Karplus, P.A. (2005) Crystal structure of an RGD-containing host-selective toxin: *Pyrenophora tritici-repentis* Ptr ToxA.. *The Plant Cell* **17**, 3190-3202.
- Poole, L.B., Roberts, B.R., Wood, Z.A., Jönsson, T.J., Reynolds, C.M. and Karplus, P.A. (2005) The AhpC-reducing, thioredoxin-like N-terminal domain of AhpF. In *Flavins and Flavoproteins* (T. Nishino, R. Miura, M. Tanokura, K. Fukui eds.) pp. 353-357, ArchiTect Inc. Tokyo, Japan.

## **Mathews, Chris**

- Kim, J., L. J. Wheeler, R. Shen, and C. K. Mathews (2005) Protein-DNA Interactions in the T4 dNTP Synthetase Complex Dependent upon Gene 32 Single-strand DNA-binding Protein. *Mol. Microbiol.* **55**, 1502-1513.
- Song, S., Z. F. Pursell, W. C. Copeland, M. J. Longley, T. A. Kunkel, and C. K. Mathews (2005) DNA Precursor Asymmetries in Mammalian Tissue Mitochondria and Possible Contribution to Mutagenesis via Reduced Replication Fidelity. *Proc. Natl. Acad. Sci. USA* **102**, 4990-4995.
- Kim, J., M. C. Olcott, I. Rajagopal, and C. K. Mathews (2005) Adenylate Kinase of *Escherichia coli*, an Integral Component of the Phage T4 dNTP Synthetase Complex. *J. Biol. Chem.* **280**, 28221-28229.
- Wheeler, L. J., I. Rajagopal, and C. K. Mathews (2005) Stimulation of Mutagenesis by Proportional Deoxyribonucleoside Triphosphate Accumulation in *Escherichia coli*. *DNA Repair* **4**, 1450-1456.
- Mathews, C.K. (2005) Bacteriophage T4. In *Encyclopedia of Life Sciences*, Second Edition. John Wiley & Sons, 1-9.

## **van Holde, Ken**

Tomschik, M., Zheng, H., van Holde, K., Zlatanova, J. and Leuba, S. (2005) Fast, long-range reversible conformation fluctuations in nucleosomes revealed by single-pair fluorescence resonance energy transfer. *PNAS* **102**, 3278-3283.