

Biochemistry and Biophysics 2004 Publications

Ahern, Kevin

Columns

Ahern, K. "WebWatch", *BioTechniques* (2004) Vol. 36, 6 columns.

Ahern, K. "WebWatch", *BioTechniques* (2004) Vol. 37, 6 columns.

Ahern, K. "On the Web", *Gen. Eng. News* (2004) Vol. 24, 21 columns.

Technical Articles

Ahern, K. *Gen. Eng. News* (2004) Vol. 24, 2 columns.

Anderson, Sonia

Bauman, A.T., Malencik, D.A., Barofsky, D.F., Barofsky, E., Anderson, S.R. and Whanger, P.D. (2004) Selective production of rat mutant selenoprotein W with and without bound glutathione. *Biochem. Biophys. Res. Comm.* **313**, 308-313.

Walker, M.K., Farkas, D.F., Anderson, S.R. and Meunier-Goddik, L. (2004) Effects of High Pressure Processing at Low Temperature on the Molecular Structure and Surface Properties of α -Lactoglobulin. *Journal of Food Science and Agricultural Chemistry* **52**, 8230-8235.

Baird, William

Baird, W.M. and Mahadevan, B. (2004) The uses of carcinogen-DNA adduct measurement in establishing mechanisms of mutagenesis and in chemoprevention. *Mutation Research* **547**, 1-4.

Mahadevan, B., Parsons, H., Musafia, T., Sharma, A., Amin, S., Pereira, C. and Baird, W.M. (2004) Effect of artificial mixtures of environmental polycyclic aromatic hydrocarbons present in coal tar, urban dust and diesel exhaust particulates on MCF-7 cells in culture. *Environmental and Molecular Mutagenesis* **44**(2), 99-107.

Baird, W.M. and Mahadevan, B. (2004) The uses of carcinogen-DNA adduct measurement in establishing mechanisms of mutagenesis and in chemoprevention. *Mutation Research* **547**, 1-4.

Barbar, Elisar

Barbar, E. and Hare, M. (2004) Characterization of the cargo attachment complex of cytoplasmic dynein using NMR and mass spectrometry. In: *Methods in Enzymology—Energetics of Biological Macromolecules, Part E* (J.M. Holt, M.L. Johnson, and G.K. Ackers, eds.), Vol. 380, pp. 219–241. Elsevier, Inc.

Makokha, M., Huang, Y.-J., Montelione, G., Edison, A.S. and Barbar, E. (2004) The solution structure of the pH-induced monomer of dynein light-chain LC8 from *Drosophila*. *Protein Sci.* **3**, 727–734.

Nyarko, A., Hare, M., Hays, T.S. and Barbar, E. (2004). The intermediate chain of cytoplasmic dynein is partially disordered and gains structure upon binding to light-chain LC8. *Biochemistry* **43**, 15595–15603.

Wang, L., Hare, M., Hays, T.S. and Barbar, E. (2004) Dynein light chain LC8 promotes assembly of the coiled-coil domain of swallow protein. *Biochemistry* **43**, 4611–4620.

Beckman, Joe

- Daiber, A., Bachschmid, M., Beckman, J.S., Munzel, T., Ullrich, V. (2004) The impact of metal catalysis on protein tyrosine nitration by peroxynitrite. *Biochem. Biophys. Res. Commun.* **317**, 873–881.
- Leinweber, B., Barofskym E., Barofsky, D., Ermilov, V., Nylin, K., Beckman, J.S. (2004) Aggregation of ALS mutant superoxide dismutase expressed in *Escherichia coli*. *Free Radic. Biol. Med.* **36**, 911–918.
- Pehar, M., Cassina, P., Vargas, M.R., Castellanos, R., Viera, L., Beckman, J.S., Estevez, A.G., Barbeito, L. (2004) Astrocytic production of nerve growth factor in motor neuron apoptosis: Implications for amyotrophic lateral sclerosis. *J. Neurochem.* **89**, 464–473.
- Robinson, K.M., Morr e, J., Beckman, J.S. (2004). Triuret: A novel product of peroxynitrite-mediated oxidation of urate. *Arch. Biochem. Biophys.* **423**, 213–217.
- Vargas, M.R., Pehar, M., Cassina, P., Estevez, A.G., Beckman, J.S., Barbeito, L. (2004) Stimulation of nerve growth factor expression in astrocytes by peroxynitrite. *In Vivo.* **18**, 269–274.

Frei, Balz

- Lotito, S.B. and Frei, B. (2004) Relevance of apple polyphenols as antioxidants in human plasma: contrasting *in vitro* and *in vivo* effects. *Free Radic. Biol. Med.* **36**, 201-211.
- Polidori, M.C., Mecocci, P., Levine, M. and Frei, B. (2004) Short-term and long-term vitamin C supplementation in humans dose-dependently increases the resistance of plasma to *ex vivo* lipid peroxidation. *Arch. Biochem. Biophys.* **423**, 109-115.
- Suh, J.H., Zhu, B.Z., deSzoek, E., Frei, B. and Hagen, T.M. (2004) Dihydrolipoic acid lowers the redox activity of transition metal ions but does not remove them from the active site of enzymes. *Redox Report* **9**, 57-61.
- Mastaloudis, A., Yu, D., O'Donnell, R.P., Frei, B., Dashwood, R.H. and Traber, M. (2004) Endurance exercise results in DNA damage as detected by the comet assay. *Free Radic. Biol. Med.* **36**, 966-975.
- Lin, Y.P., Zhu, B.Z., Yang, M.C., Frei, B., Pan, M.H., Lin, J.K. and Wang, Y.J. (2004) Bcl-2 overexpression inhibits tetrachlorohydroquinone-induced apoptosis in NIH3T3 cells: a possible mechanism for tumor promotion. *Mol. Carcinog.* **40**, 24-33.
- Stone, P.H., Lloyd-Jones, D.M., Johnstone, M., Carlson, W., Rubenstein, J., Creager, M., Frei, B., Sopko, G., Clark, M.E., MacCallum, G., Kinlay, S., Orav, J. and Selwyn, A. (2004) Vascular basis for the treatment of myocardial ischemia study: trial design and baseline characteristics. *Am. Heart J.* **147**, 875-882.
- Lotito, S.B. and Frei, B. (2004) The increase in human plasma antioxidant capacity following apple consumption is due to the metabolic effect of fructose on urate, not apple-derived antioxidant flavonoids. *Free Radic. Biol. Med.* **37**, 251-258.
- Sowell, J., Frei, B. and Stevens, J.F. (2004) Vitamin C conjugates of genotoxic lipid peroxidation products: Structural characterization and detection in human plasma. *Proc. Natl. Acad. Sci. USA* **101**, 17964-17969; see also: Sowell, J., Frei, B. and Stevens, J.F. (2007) Retraction for Sowell et al., Vitamin C conjugates of genotoxic lipid peroxidation products: Structural characterization and detection of human plasma. *Proc. Natl. Acad. Sci. USA* **104**, 14543.
- Lawson, S., Higdon, J.V. and Frei, B. (2004) The optimum intake of vitamin C: history and controversy. In: *Vitamin C: Functions and Biochemistry in Animals and Plants* (Asard, H., May, J.M. and Smirnoff, N., eds), pp. 1-6, Garland Science/BIOS Scientific Publishers, Oxon, UK.

- Higdon, J.V. and Frei, B. (2004) Vitamin C as a cancer chemopreventive agent. In: *Cancer Chemoprevention, Volume 1: Promising Cancer Chemopreventive Agents* (Kelloff, G.J., Hawk, E.T. and Sigman, C.C., eds), pp. 485-510, The Humana Press, Totawa, NJ.
- Higdon, J. and Frei, B. (2004) Vitamin C, vitamin E, and β -carotene in cancer chemoprevention. In: *Phytopharmaceuticals in Cancer Chemoprevention* Bagchi, D. and Preuss, H.G., eds), CRC Press, Boca Raton, FL.
- Frei, B. (2004) Efficacy of dietary antioxidants to prevent oxidative damage and inhibit chronic disease. *J. Nutr.* **134**, 3196S-3198S.
- Lotito, S. and Frei, B. (2004) Apples and plasma antioxidant capacity in humans: the roles of fructose and urate. In: *Medimond International Proceedings* (Puntarulo, S. and Boveris, A., eds), pp. 41-48, Monduzzi, Bologna, Italy.

Gross, Michael

Greenwood, Jeffrey

- Corgan, A.M., Singleton, C., Santoso, C.B., and Greenwood, J.A. (2004) Phosphoinositides differentially regulate α -actinin flexibility and function. *Biochem. J.* **378**, 1067-1072.

Hagen, Tory

- Suh, J.H., Shenvi, S.V., Dixon B.M., Liu, H., Jaiswal, A.K. Liu, R.-M., and Hagen, T.M. (2004) Decline in transcriptional activity of Nrf2 causes age-related loss of glutathione synthesis, which is reversible with lipoic acid. *Proc. Natl. Acad. Sci., USA.* **101**, 3381-3386.
- Suh JH, Wang H, Liu RM, Liu J, Hagen TM. (2004) (R)-alpha-lipoic acid reverses the age-related loss in GSH redox status in post-mitotic tissues: evidence for increased cysteine requirement for GSH synthesis. *Arch Biochem Biophys.* **423**, 126-135.
- Suh JH, Zhu BZ, deSzoeko E, Frei B, Hagen TM. (2004) Dihydrolipoic acid lowers the redox activity of transition metal ions but does not remove them from the active site of enzymes. *Redox Rep.* **9**, 57-61.
- Smith AR, Shenvi SV, Widlansky M, Suh JH, Hagen TM. (2004) Lipoic acid as a potential therapy for chronic diseases associated with oxidative stress. *Curr Med Chem.* **11**, 1135-1146.
- Moreau R, Heath SH, Doneanu CE, Harris RA, Hagen TM. (2004) Age-related compensatory activation of pyruvate dehydrogenase complex in rat heart. *Biochem Biophys Res Commun.* **325**, 48-58.
- Liu H, Wang H, Shenvi S, Hagen TM, Liu RM. (2004) Glutathione metabolism during aging and in Alzheimer disease. *Ann N Y Acad Sci.* **1019**, 346-349.
- Moreau R, Heath SH, Doneanu CE, Harris RA, Hagen TM. (2004) Age-related compensatory activation of pyruvate dehydrogenase complex in rat heart. *Biochem Biophys Res Commun.* **325**, 48-58.

Ho, P. Shing

- Watson, J., Hays, F.A. and Ho, P.S. (2004) Definitions and analysis of DNA Holliday junction geometry. *Nucleic Acids Res.* **32**, 3017-3027 (cover).
- Champ, P.C., Maurice, S., Vargason, J.M., Camp, T. and Ho, P.S. (2004) Distributions of Z-DNA and nuclear factor I in human chromosome 22: Evidence for coupled transcriptional regulation. *Nucleic Acids Res.* **32**, 6501-6510.
- Hays, F.A., Jones, Z.J.R. and Ho, P.S. (2004) Influence of minor groove substituents on the structure of DNA Holliday junctions. *Biochemistry* **43**, 9813-9822.

Auffinger, P., Hays, F.A., Westhof, E. and Ho, P.S. (2004) Halogen bonds in biological molecules. *Proc. Natl. Acad. Sci. USA.* **101**, 16789-16794.

Yan, X., Watson, J., Ho, P.S. and Deinzer, M.L. (2004) Mass spectrometric approaches using electrospray ionization charge states and hydrogen-deuterium exchange for determining protein structures and their conformational changes. *Mol. Cell. Proteomics* **3.1**, 10-23.

Hsu, Victor

Hicks, J.M. and Hsu, V.L. (2004) The extended left-handed helix: A simple nucleic acid-binding motif. *Proteins: Structure, Function and Bioinformatics* **55**, 316-329.

Karplus, P. Andrew

Poole, L.B., Karplus, P.A. and Claiborne, A. (2004) Protein sulfenic acids in redox signaling. *Annu. Rev. Pharmacol. Toxicol.* **44**, 325-347.

Finnerty, C.M., Chambers, D., Ingraffea, J., Faber, H.R., Karplus, P.A. and Bretscher, A.P. (2004) The EBP50-Moesin interaction involves a binding site regulated by direct masking on the FERM domain. *J. Cell. Sci.* **117**, 1547-1552.

Karplus, P.A. and Faber, H.R. (2004) Structural aspects of plant ferredoxin:NADP+ oxidoreductases. *Photosynth. Res.* **81**, 303-315.

Myzak, M.C., Karplus, P.A., Chung, F.-L., and Dashwood, R.H. (2004) A Novel Mechanism of Chemoprotection by Sulforaphane: Inhibition of Histone Deacetylase. *Cancer Res.* **64**, 5767-5774.

Kioussi, Chrissa

Mathews, Chris

Koç, A., L. J. Wheeler, C. K. Mathews, and G. F. Merrill (2004) Hydroxyurea Arrests DNA Replication by a Mechanism that Preserves Basal dNTP Pools. *J. Biol. Chem.* **279**, 223-230.

Shen, R., M. C. Olcott, J. Kim, I. Rajagopal, and C. K. Mathews (2004) *Escherichia coli* Nucleoside Diphosphate Kinase Interactions with T4 Phage Proteins of Deoxyribonucleotide Synthesis, and Possible Regulatory Functions. *J. Biol. Chem.* **279**, 32225-32232.

McFadden, Phil

Pancrazio, J. J., McFadden, P. N., Belkin, S. and Marks, R. S. (2004) EILATox-Oregon Biomonitoring Workshop: Summary and Observations. *Journal of Applied Toxicology* **24**, 317-321.

Mojovic, L., Dierksen, K. P., Upson, R. H., Caldwell, B. A., Lawrence, J. R., Trempey, J. E. and McFadden, P. N. (2004) Blind and naïve classification of toxicity by fish chromatophores. *Journal of Applied Toxicology* **24**, 355-361.

Dierksen, K. P., Mojovic, L., Caldwell, B. A., Preston, R. R., Upson, R. H., Lawrence, J. R., McFadden, P. N. and Trempey, J. E. (2004) Responses of fish chromatophore-based cytosensor to a broad range of biological agents. *Journal of Applied Toxicology* **24**, 363-369.

Merrill, Gary

Koç, A., Wheeler, L.J., Mathews, C.K. and Merrill, G.F. (2004) Hydroxyurea arrests DNA replication by a mechanism that preserves basal dNTP pools. *J. Biol. Chem.* **279**, 223-230.

Chung, W.-C., Sen, A., Wang-Buhler, J.-L., Yang, Y.-H., Lopez, N., Merrill, F., Miranda, C.L., Hu, C.-H. and Buhler, D.R. (2004) cDNA-directed expression of a functional zebrafish CYP1A in yeast. *Aquat. Toxicol.* **70**, 111-121.

Schimerlik, Michael

Yan, X.Y., Broderick, D., Leid, M.E., Schimerlik, M.I. (2004) Dynamics and Ligand-Induced Solvent Accessibility Changes in Human Retinoid X Receptor Homodimer Determined by Hydrogen Deuterium Exchange and Mass Spectrometry. *Biochemistry* **43**, 909-917.

Harder, M.E., Deinzer, M.L., Leid, M.E., and Schimerlik, M.I. (2004) Global analysis of three-state protein folding data. *Protein Science* **13**, 2207-2222.

van Holde, Ken

van Holde, K.E. (2004) Sedimentation equilibrium and the foundations of protein chemistry. *Biophys. Chem.* **108**, 5-8.

Ellen, T.P. and van Holde, K.E. (2004) Linker histone interaction shows divalent character with both supercoiled and linear DNA. *Biochemistry* **43**, 7867-7872.

Demeler, B. and van Holde, K.E. (2004) Sedimentation velocity analysis of highly heterogeneous systems (2004) *Anal. Biochem.* **335**, 279-288.