

Biochemistry and
Molecular Biology



NOTES



Volume 15, No 9

December, 2002



HERE'S
HOPI NG
YOUR
HOLIDAYS
TURN OUT
TO BE
TERRIFIC!

December Seminars

Biochemistry Seminars Mondays 4 pm, MS 326

12/2 Janet L. Smith, Ph.D., Department of Biological Sciences, Purdue University, West Lafayette, IN. Topic: "Catalysis by Enzymes with Multiple Active Sites"

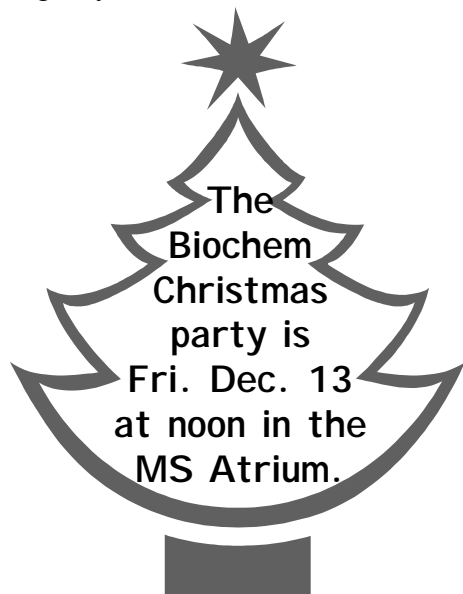
Biochemistry Student Seminars Wednesdays, 12 Noon, MS 311

12/4 Suzanne Hart Young

Center for Diabetes Research Seminars, Tuesdays, 4:00 pm, MS 122

12/3 Kieren Mather, Ph.D., Division of Endocrinology and Metabolism, IUSOM; "Endothelin and Obesity-Related Vascular Dysfunction"

12/17 Alexander Skurat, Ph.D., Department of Biochemistry and Molecular Biology, IUSOM; "Regulation of glycogen synthesis"



IUSOM Combined Seminar Series Wednesdays, 4:00 pm, Cancer Res (R4) Auditorium 101

12/5 Signaling Pathways and Functional Heterogeneity of Memory T Cells. **Donna L. Farber, Ph.D.**, Dept. of Surgery, University of Maryland at Baltimore; Baltimore, MD.

12/11 Structural and Energetic Studies of Nucleic Acid Binding to the Fingers Domain of Moloney Murine Leukemia Virus Reverse Transcriptase. **Millie Georgiadis, Ph.D.**, Dept. of Biochemistry/Molecular Biology; IUSM.

12/18 Chemokines and Cancer. **Albert Zlotnik, Ph.D.**, Director of Genomic Medicine, Eos Biotechnology; South San Francisco, CA.



INGEN PROTEOMICS SYMPOSIUM A SUCCESS

A comprehensive introduction to proteomics was provided at the first INGEN Proteomics Symposium on November 15, 2002 at the University Conference Center. This day-long event was an unqualified success with over 250 people in attendance. Ora Pescovitz welcomed the group and **Mark Hermodson** of Purdue provided opening remarks. Talks from various proteomics investigators followed: **Frank Witzmann** and Linda Malkas of IUSM, Milos Novotny and David Clemmer of IUB, and Randy Julian and John Hale of Eli Lilly. A poster session and reception completed the afternoon with more than 35 posters. This event was the first in a series of 3 proteomics symposiums; future meetings will be held in West Lafayette and in Bloomington. The series was conceived to foster communication between the individuals who develop proteomics technologies and those who apply them. Our congratulations to **Mu Wang, Frank Witzmann, and John Hawes** for organizing this successful event here at IUSM.

Other Seminars of Interest

12/4 12:00 noon Functional Genomics: Microarrays and Complex Genetic Diseases. **Howard J. Edenberg, Ph.D.**, Dept. of Biochemistry/Molecular Biology; IUSM. Fesler Hall 115.

12/11 12:00 noon Regulation and Function of the Ras-Related Rap 1 GTPase and its GEFs. **Lawrence A. Quilliam, Ph.D.**, Dept. of Biochemistry/Molecular Biology; IUSM. Fesler Hall 115.

12/12 4:00 p.m. Interactions of HIV-1 with Brain Cells at Cellular and Molecular Levels. **Johnny J. He, Ph.D.**, Walther Oncology Center and Dept. of Microbiology/Immunology; IUSM. VanNuys Medical Science 326.

Recent Publications

Porjesz, B., L. Almasy, **H. J. Edenberg**, K. Wang, D. B. Chorlian, T. Foroud, A. Goate, J. P. Rice, S. J. O'Connor, J. Rohrbaugh, S. Kuperman, L. O. Bauer, R. R. Crowe, M. A. Schuckit, V.

Hesselbrock, P. M. Conneally, J. A. Tischfield, **T.-K. Li**, T. Reich, and H. Begleiter (2002) "Linkage disequilibrium between the beta frequency of the human EEG and a GABAA receptor gene locus." PNAS USA 99:37293733.

Dick, D.M., T. Foroud, **H. J. Edenberg**, M. Miller, E. Bowman, N. L. Rau, J. R. DePaulo, M. McInnis, E. Gershon, F. McMahon, J. P. Rice, L. J. Bierut, T. Reich, J. Nurnberger, Jr. (2002) "Apparent Replication of Suggestive Linkage on Chromosome 6 in the NIMH Genetics Initiative Bipolar Pedigrees." Am. J. Med. Genet. (Neuropsychiatric Genetics) 114: 407-412.

Saccone, N.L., J.P. Rice, N. Rochberg, J.T. Williams, A. Goate, T. Reich, **H.J. Edenberg**, T. Foroud, J.I. Nurnberger Jr., L.J. Bierut, R. Crowe, **T.-K. Li** (2002) "Linkage for platelet monoamine oxidase (MAO) activity: results from a replication sample." Alcohol. Clin. Exp. Res. 26: 603-609.

Lee, D.K., D. Suh, **H.J. Edenberg**, **M.-W. Hur** (2002) "POZ Domain Transcription Factor, FBI-1, Represses Transcription of ADH5/FDH by Interacting with the Zinc Finger and Interfering with DNA Binding Activity of Sp1." J. Biol. Chem. 277: 26761-26768.

Carr, L.G., T. Foroud, T. Stewart, P. Castelluccio, **H. J. Edenberg**, **T.-K. Li** (2002) "Influence of ADH1B polymorphism on alcohol use and its subjective effects in a Jewish population." Am. J. Med. Genet. 112: 138-43.

Porjesz, B., H. Begleiter, K. Wang, L. Almasy, D.B. Chorlian, A.T. Stimus, S. Kuperman, S.J. O'Connor, J. Rohrbaugh, L.O. Bauer, **H.J. Edenberg**, A. Goate, J.P. Rice, T. Reich (2002) "Linkage and linkage disequilibrium mapping of ERP and EEG phenotypes." Biological Psychology 61: 229-248.

Dick, D.M., J. Nurnberger, Jr., **H.J. Edenberg**, A. Goate, R. Crowe, J. Rice, K.K. Bucholz, J. Kramer, M.A. Schuckit, T.L. Smith, B. Porjesz, H. Begleiter, V. Hesselbrock, T. Foroud (2002) "Suggestive Linkage on Chromosome 1 for a Quantitative Alcohol-Related Phenotype." Alc. Clin. Exp. Res. 26: 1453-1460.

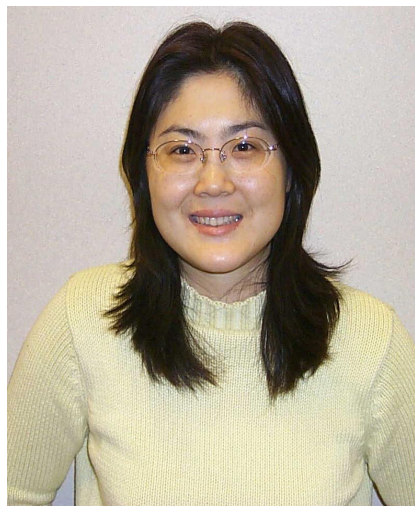
Wilson, Wayne A., Roach, Peter J. (2002) "Nutrient-Regulated Protein Kinases in Budding Yeast" Cell 111: 155-158

Seo YR, **Kelley MR**, Smith ML(2002) Selenomethionine regulation of p53 by a ref1-dependent redox mechanism. PNAS USA 99:14548-53.

The cancer chemopreventive properties of selenium compounds are well documented, yet little is known of the mechanism(s) by which these agents inhibit carcinogenesis. We show that selenium in the form of selenomethionine (SeMet) can activate the p53 tumor suppressor protein by a redox mechanism that requires the redox factor Ref1. Assays to measure direct reduction/oxidation of p53 showed a SeMet-dependent response that was blocked by a dominant-negative Ref1. By using a peptide containing only p53 cysteine residues 275 and 277, we demonstrate the importance of these residues in the SeMet-induced response. SeMet induced sequence-specific DNA binding and transactivation by p53. Finally, cellular responses to SeMet were determined in mouse embryo fibroblasts wild-type or null for p53 genes. The evidence suggests that the DNA repair branch of the p53 pathway was activated. The central relevance of DNA repair to cancer prevention is discussed.

(*Related Commentary in PNAS: New careers for antioxidants, Douglas E. Brash and P. A. Havre PNAS 2002 99: 13969-13971.*)

New Faces in Biochemistry



Ms. Hao An, a Visiting Research Associate in Matt Grow's lab



Marcus Prow is an hourly technician; he will help Jack with computer support



Botao Zhou is an hourly lab assistant working in Ron Wek's lab

Biochem Briefs

New grant award

Edward E. McKee was awarded a new NIH-NHLI award for his project, "New Research Heart Mitochondrial Toxicity of Antiviral Nucleosides".



Wanzi Yang is an hourly lab assistant working in the labs of Ron Wek and Lawrence Quilliam.



Merry Christmas

Bracelet sale to benefit IU Cancer Center

Creations for the Cure Breast Cancer Bracelet Sale will be from 10:30 a.m. to 1:30 p.m. Wednesday, Dec. 18, in the lobby of the Indiana Cancer Pavilion. The bracelets, made of Swarovski crystals and sterling silver beads, cost \$25 to \$35. Each bracelet also sports a silver breast cancer awareness ribbon worked into the design.

A \$5 memorial donation will be made to the IU Cancer Center's Catherine Peachey Breast Cancer Prevention Program for each bracelet sold.

In Memoriam

Ruth Gurd, Ph.D., passed away on November 11 in Albuquerque, New Mexico. She is survived by her husband, Frank Gurd, Ph.D.