Steven Myers

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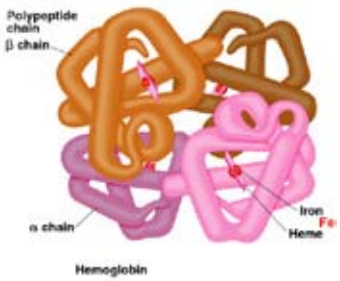

Research Activities:

Our research examines the development and validation of biological markers of exposure to environmental hazards, including tobacco smoke and automobile exhaust. Specifically, we have developed and refined methods of analysis and utilization of hemoglobin as a biological marker of exposure assessment in individuals exposed to environmental carcinogens. Our research efforts have also led to the application of urine as a biological sample for detection of multiple carcinogens, most notably, the environmentally related polycyclic aromatic hydrocarbons. This research has led to numerous collaborative projects in many polluted areas of the world, including the Czech Republic, and the People's Republic of China. Over the past number of years, our research has focused on the effects of maternal smoking during pregnancy and we have applied our biomarker techniques to the development of markers of tobacco related carcinogens in both maternal and neonates, especially from mothers that smoke during pregnancy. This research has led to a better understanding of the effects of tobacco smoking on fetal growth and gestation. Further studies are currently ongoing to determine the relationships between maternal and fetal metabolism and detoxification of tobacco carcinogens and the effects of pharmacogenetics of enzyme variation on adduct formation, and gestational age, and neonatal growth. In an extension of these studies, we are also developing the application of amniotic fluid as a biomarker of carcinogen exposure detected in the first trimester of pregnancy and we are developing assays for the detection of breast milk biomarkers that can be applied to women that are breast-feeding their neonates.

Dr. Myers has served on numerous NIH as wells as EPA internal as well as external review study sections and panels. He has presented his research extensively both Internationally and throughout the United States. He also lectures in the Pharmacology and Toxicology Medical Student and Graduate Student courses, providing lectures on gastrointestinal pharmacology, local anesthetics, and biomarkers. Dr. Myers serves also as course director and lecturer of an online Basic Pharmacology course, Neonatal Pharmacology course, and Geriatric Pharmacology course and currently represents the Department of Pharmacology and Toxicology on the University of Louisville School of Medicine Faculty Forum, and serves on the School of Medicine Admissions Committee.

Peer-reviewed Publications:

Myers, Steven R. and Ali, M. Yeakub. Haemoglobin as a biomarker for tobacco-related nitrosamines, *Biomarkers* 12(8): 1 – 15, 2007.

Myers, S.R., Bioalkylation of Benz(a)anthracene: Implications for Carcinogenesis, *Journal of Polycyclic Aromatic Compounds*, 27(4): 311 – 337, 2007.

Myers, S.R., Ali, M. Y., Wright, T., and Cunningham, C. Benzo(a) pyrene Metabolism: Role of Bioalkylation, *Journal of Polycyclic Aromatic Compounds* 27(4):339 – 359, 2007.

Myers, S.R. and Ali, M. Y., Determination of Tobacco Specific Hemoglobin Adducts in Smoking Mothers and NewBorn Babies by Mass Spectrometry., *Biomarker Insights* 2:269–282, 2007.

Myers, S.R. and Spinnato, J.A., Tissue distribution and elimination of N -methyl- N -2,4,6-tetranitroaniline (tetryl) in rats, *Archives of Toxicology,* 81(12): 841-848, 2007.

Myers, S.R. and Spinnato, J.A., Metabolism, tissue distribution, and pharmacokinetics of N-methyl-N-2,4,6-tetranitroaniline (tetryl) *Environmental Toxicology and Pharmacology*, 24(3): 206 -211, 2007.

Sumanasekera, W. K., Ivanova, M. M., Johnston, B. J., Dougherty, S. M., Sumanasekera, G. U., **Myers, S. R.**, Ali, M. Y., Kizu, R., and Klinge, C. M., Rapid effects of diesel exhaust particulate extracts on intracellular signaling in human endothelial cells. *Toxicology Letters*, 174(1-3): 61-73, 2007.

Myers, S.R., Zamora, R., Ali, M. Y., Cunningham, C. R., Wright, T., and Weeks, J. Analysis of Polycyclic Aromatic Hydrocarbons in Amniotic Fluid Samples from Smokers and Nonsmokers, *Journal of Polycyclic Aromatic Compounds* 28(1): 39 – 66, 2008.

Myers, S.R., Hurst, H.E., Cunningham, C., Ali. M. Y., and Wright, T., Kinetics of Formation of (±)-anti-7, 8-dihydroxy-9α,10α-epoxy-7, 8, 9, 10-tetrahydrobenzo[a]pyrene Adducts with Mouse and Human Hemoglobin, *Journal of Polycyclic Aromatic Compounds*, 28(2):143 - 164, 2008.