Scientists Present Research on Environmental Chemicals’ Connection With Obesity and Other Health Concerns at Toxicology Conference

Phoenix, Ariz.; March 25, 2014 — With obesity affecting 30 percent of the US population, toxicologists and other scientists are exploring how exposure to environmental chemicals might be exacerbating this and other health problems. They are discussing some of their findings today at the Society of Toxicology (SOT) 53rd Annual Meeting and ToxExpo in Phoenix, Ariz.

Obesity, type 2 diabetes, and other disorders are part of the metabolic syndrome, which has seen an exponential increase in the US and other developed countries in the last few years. The metabolic syndrome also causes fat to build up in the liver, a condition known as fatty liver disease, which leads to several health problems.

While alcohol consumption and high-fat, high-caloric diets can be connected with the increased rate of fatty liver disease, they do not account for the full increase, which has led researchers to look into environmental chemical exposure as another culprit.

“Animal studies show that exposure to certain environmental chemicals could result in fatty liver disease,” says Charlene A. McQueen, PhD, ATS, US Environmental Protection Agency (EPA), co-chair of the “Does This Chemical Make My Liver Look Fat? (Environmental Exposures and Steatosis)” session. “Current research is evaluating if changes in liver cells caused by environmental chemicals can lead to the development of fatty liver disease, how the disease may progress to cause further damage, and what chemicals are known to cause these molecular changes.”

Presenters during today’s session include:

- Saurabh Chatterjee, PhD, University of South Carolina, who is discussing the results of his laboratory’s research into how bromodichloromethane, a drinking water disinfection byproduct, is affecting fatty liver disease when ingested by rats at levels currently deemed permissible by the EPA.

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• Wen Xie, MD, PhD, University of Pittsburgh, who is describing his studies on the protein aryl hydrocarbon receptor (AhR), which can be activated by environmental chemicals, and its role in fatty liver disease.

• Angela L. Slitt, PhD, University of Rhode Island, who is speaking about the results of her laboratory’s research into how anti-stick components, such as PFOS, found in household goods interfere with dietary practices designed to reverse fatty liver disease.

• Bruce Blumberg, PhD, University of California Irvine, who is presenting the findings of his research into how prenatal exposure to environmental chemicals can affect the development of fatty liver disease in future generations.

“When someone initially develops fatty liver disease, it is benign. However, it can then develop into or contribute to much more serious health concerns,” says Nathan J. Cherrington, PhD, University of Arizona, co-chair of the session. “With incidents of fatty liver disease on the rise, it is important to discover and discuss how exposure to certain chemicals throughout one’s life can impact the development of this disease.”

To speak with a topic expert from the “Does This Chemical Make My Liver Look Fat? (Environmental Exposures and Steatosis)” session, please contact:

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About SOT
Founded in 1961, the Society of Toxicology (SOT) is a professional and scholarly organization of more than 7,700 scientists from academic institutions, government, and industry representing the great variety of individuals who practice toxicology in the US and abroad. SOT is committed to creating a safer and healthier world by advancing the science of toxicology. The Society promotes the acquisition and utilization of knowledge in toxicology, aids in the protection of public health, and has a strong commitment to education in toxicology and to the recruitment of students and new members into the profession. For more information about SOT and toxicology, visit the Society online at www.toxicology.org, follow us on Twitter @SOToxicology, and like us on Facebook.