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EPA Model of Dioxin Toxicity Risk Lacks Science

By [Krystal Wilson](#)

With 1,500 Americans a day dying of cancer, one would think that the Environmental Protection Agency would have a good grasp on how to classify a carcinogen. Unfortunately, based on their decision to add dioxin to the growing list of human carcinogens, this is not the case. Despite the intricate scientific details clearly involved in a topic like this, the EPA has chosen to base dioxin toxicity risks on what can only be described as a default principle: high-dose rat experiments. In these experiments, rats are given chemicals at high levels of exposure, and the data is then used to assess what can happen to humans at typical environmental exposure, which are often a million-fold less. High levels of dioxin exposure cause cancer in rats, and the EPA routinely labels such chemicals as human carcinogens (see ACSH's *America's War on "Carcinogens": Reassessing the Use of Animal Tests to Predict Human Cancer Risk*). The EPA's method makes no sense.

Dioxin is the common name for a family of halogenated organic compounds, the most common of which are PCDFs and PCDDs. We, as humans, all are exposed to dioxins at some point in our lives due to their widespread use in common items such as plastics. However, the level of exposure is extremely low and poses no real danger to our health (see "[Dioxin: Death for Objectivity](#)").

In our amicus brief ([EPA-cancer amicus brief](#)) currently before the Supreme Court in the case of *Hercules Incorporated vs. United States of America*, ACSH asserts that we are opposed to the EPA's default principle. We call upon the EPA to hold a hearing on the dioxin cancer-potency factor. This potency factor is key to formulating a science-based cancer risk management program. There is strong scientific evidence that contradicts the EPA's model of cancer risk, and it is essential that the EPA consider this evidence.

Scientific studies show that the low levels of dioxin we are exposed to do not correspond to the cancer-causing effects seen in high-dose animal experiments. Therefore, we are simply asking the EPA to use science when they are determining whether a chemical poses a health risk. Without doing so, they will ultimately cause economic distress as well as unnecessary health scares among the general public (see ACSH's *Top Ten Unfounded Health Scares of 2006*).

The following prestigious scientists have signed our petition:

Gerald N. Wogan, Ph.D.
<http://web.mit.edu/gnwlabs/people/wogan.htm>

David L. Eaton, Ph.D.
http://depts.washington.edu/envhlth/about/facultypage/eato_page.html

Herman N. Autrup, Ph.D.
Professor of Environmental Medicine at the Institute of Public Health, University of Aarhus

Leslie Bernstein, Ph.D.
<http://www.usc.edu/schools/medicine/util/directories/faculty/profile.php?PersonID=107>

About the Editor: **Todd Seavey**



is Director of Publications at ACSH and edits FactsAndFears. His opinions are not necessarily ACSH's.

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Sir Colin Berry, M.D., Ph.D.
Professor Emeritus of Pathology, University of London

Joseph R. Bertino, M.D.
<http://umg.umdnj.edu/public/directory/doctor.asp?doctor=574742253>

Jim Bridges, Ph.D.
Research Project Leader in the Centre for Toxicology and Environmental Health

Patricia A. Buffler, Ph.D., M.P.H.
<http://coeh.berkeley.edu/people/faculty/buffler.htm>

Daniel M. Byrd III, Ph.D.
http://www.lsro.org/about/bios_byrd.html

Peter C. Dedon, M.D., Ph.D.
<http://dedon.mit.edu/lab/index.htm>

John Doull, M.D., Ph.D.
Professor Emeritus of Pharmacology and Toxicology, University of Kansas Medical School

Raymond N. DuBois, M.D., Ph.D.
<http://www.vicc.org/dd/display.php?id=4015>

Ronald M. Evans, Ph.D.
<http://www.hhmi.org/research/investigators/evans.html>

Corrado Galli, ERT
Professor of Toxicology and Director of the Centre for Evaluation of Toxicological Risk at the University of Milan

Robert Golden, Ph.D.
President of ToxLogic, LLC

Frederick P. Guengerich, Ph.D.
https://medschool.mc.vanderbilt.edu/facultydata/php_files/show_faculty.php?id3=779

A. Wallace Hayes, Ph.D.
<http://www.enviropcorp.com/people/bio.php?id=6076>
Visiting Scientist in the Department of Environmental Health at the Harvard School of Public Health

Kent R. Hornbrook, Ph.D.
Professor Emeritus, University of Oklahoma

David G. Kaufman, M.D., Ph.D.
<http://cancer.unc.edu/research/faculty/DisplayByList.asp?ID=98>

Henry C. Pitot, M.D., Ph.D.
<http://www.pathology.wisc.edu/faculty/bio.aspx?name=hpitot>

Alan P. Poland, M.D.
Member of the Executive Committee of the National Toxicology Program

Karl K. Rozman, Ph.D.
<http://www.kumc.edu/pharmacology/rozman.html>

Stephen H. Safe, D. Phil.
<http://gsbs.uth.tmc.edu/tutorial/safe.html>

Rolf Schulte-Hermann, Ph.D.
Head of the Division of Toxicology and Prevention at the Medical University of Vienna

James A. Swenberg, D.V.M., Ph.D.
<http://www.unclineberger.org/research/faculty/displayMember.asp?ID=187%20>

Steven R. Tannenbaum, Ph.D.

(the gory details from ACSH)

- aBetterEarth.org
- AgBioWorld
- [American Justice Partnership](http://AmericanJusticePartnership)
- [Anti-Quackery and Science Blog](http://Anti-QuackeryandScienceBlog)
- [Anti-Quackery Ring](http://Anti-QuackeryRing)
- BiomonitoringInfo.org
- [Blogborygmi.com \(Nick Gene & co.\)](http://Blogborygmi.com)
- CalorieLab
- [The Cancer Blog](http://TheCancerBlog)
- [Catalarchy \(econ, etc.\)](http://Catalarchy)
- [Competitive Enterprise Institute](http://CompetitiveEnterpriseInstitute)
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- Debunkers.org
- Diet-Blog.com
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- [In the Pipeline \(drugs per Derek Lowe\)](http://InThePipeline)
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- [Institute of Ideas](http://InstituteofIdeas)
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- MedMusings
- [National Council Against Health Fraud](http://NationalCouncilAgainstHealthFraud)
- Overlawyered.com
- ParkinsonsHealth
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- Quackfiles
- Quackfiles.blogspot.com
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- [James Randi, ultimate skeptic](http://JamesRandi)
- [Rangel, M.D.](http://Rangel)
- [Reason \(including Seavey pieces\)](http://Reason)
- [SAGEcrossroads.net \(aging\)](http://SAGEcrossroads.net)
- [Scientific Review of Alternative Medicine](http://ScientificReviewofAlternativeMedicine)
- [Science Media Centre](http://ScienceMediaCentre)

<http://web.mit.edu/Chemistry/www/faculty/tannenbaum.html>

B. Frank Vincent, Ph.D.

Served as President of the International Society of Regulatory Toxicology and Pharmacology (ISTRP) and was a member of the Toxicology Forum

Nicholas J. Vogelzang, M.D.

<http://nevadacancerinstitute.org/about/executivestaff/vogelzang.htm>

William J. Waddell, M.D.

Professor and Chairman Emeritus of the Department of Pharmacology and Toxicology at the University of Louisville

Raymond L. White, Ph.D.

<http://altrue.he.net/~egallo/site/WhiteLab/>

Charles R. Wolf, Ph.D

Director of the University of Dundee Biomedical Research Centre and Honorary Director of the Cancer Research UK Molecular Pharmacology Unit

Krystal Wilson is a research intern at the American Council on Science and Health (ACSH.org, HealthFactsAndFears.com).

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