



Full-Length cDNA Libraries from Dioxin- and Vehicle-Treated Mice

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Inventors: Christopher Bradfield, Kalyan Pande

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing full-length cDNA libraries isolated from non-parenchymal mouse liver cells.

Overview

Dioxin is a highly toxic environmental pollutant that acts primarily through the aryl hydrocarbon receptor. Exposure to dioxin has adverse effects on the immune, nervous, endocrine and reproductive systems, and has been shown to cause cancer in animals. To better understand the effects of this toxin and develop ways of treating dioxin contamination, scientists need to discover which genes are responsive to dioxin.

The Invention

UW-Madison researchers have isolated two full-length cDNA libraries from non-parenchymal mouse liver cells. One library was isolated from dioxin-treated mice and the other from a control group of vehicle-treated mice. These libraries could be used to determine which genes are upregulated and which are downregulated by dioxin.

Applications

- Improve our understanding of dioxin's mechanism of toxicity
- Determine which genes are responsive to dioxin

Key Benefits

- Both libraries contain full-length clones and were isolated at the same time.
- Provides— for the first time—a snap shot of the effects of dioxin on gene expression in mammals
- Provides potential targets for the development of dioxin treatments
- May enable the development of screens for dioxin in the environment

Stage of Development

The inventors have created microarrays using these libraries.

Additional Information

For More Information About the Inventors

- [Christopher Bradfield](#)

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