Improved Dioxin Detection and Measurement

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Technology description

Researchers at the University of California, Davis have invented synthetic methods and compounds useful for the improved detection of 2,3,7,8-tetrachlorodibenzodioxin (TCDD) and related halogenated dibenzodioxin compounds. One improvement is the preparation of a surrogate standard for quantitative analysis. It has the advantage of decreased toxicity as compared to TCDD, and possibly increased lability in animals. The UC standard will preclude the use of more toxic standards, and might find use as an internal calibration standard for the measurement of dioxin concentrations in environmental matrices.
The second improvement relates to the use of haptens for the analysis of dioxins by ELISA. The UC researchers have identified and synthesized TCDD haptens that should result in the production of antibodies more sensitive and more selective than those currently used to detect TCDD and its analogs. In addition, the haptens may be used to improve the sensitivity and selectivity of existing antibodies. With the UC haptens, ELISA can be significantly improved as a means for detecting dioxin.
Synthetic Methods and Compounds for Improved Detection of 2,3,7,8-tetrachlorodibenzodioxin (TCDD)

Additional Information

Related Technologies
Antibodies: Bacillus Delta Endotoxin PAbs
Antibodies: Bromacil Herbicide PAbs
Antibodies: Triazine Herbicide Pabs
Antibodies: Urea Herbicide Pabs
Recombinant Neurotoxin: A More Effective Insecticide

Additional Technologies by these Inventors
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Antibodies: Urea Herbicide Pabs
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Dual Inhibitors of Soluble Epoxide Hydrolase and Cyclooxygenase-2
Novel and Specific Inhibitors of p21

Beneficial Effects of Novel Inhibitors of Soluble Epoxide Hydrolase as Adjuvant Treatment for Cardiac Cell-Based Therapy
Novel Neuropathy Treatment Using Soluble Epoxide Inhibitors
Detection System for Small Molecules
Methods and Compositions of Treating Diabetic Nephropathy and Insulin Resistance
Method of Preventing Bone Loss and Periodontal Disease
A New Pharmaceutical Therapy Target for Depression and Other Central Nervous System Diseases
Multi-Target Inhibitors for Pain Treatment
Antibodies for Pseudomonas (P.) aeruginosa
Chemical Synthesis of Lipid Mediator 22-HDoHE and Structural Analogs

Institution

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