Improved Dioxin Detection and Measurement

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ABSTRACT

Synthetic Methods and Compounds for Improved Detection of 2,3,7,8-tetrachlorodibenzodioxin (TCDD)

FULL 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.

INVENTORS

- Hammock, Bruce D.

OTHER INFORMATION

KEYWORDS

dioxin detection, dioxin measurement

RELATED CASES

1995-007-0, 1995-008-1

RELATED TECHNOLOGIES

- Antibodies: Bacillus Delta Endotoxin PAbs
- Antibodies: Bromacil Herbicide PAbs
- Antibodies: Triazine Herbicide Pabs
- Antibodies: Urea Herbicide Pabs

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Method of Preventing Bone Loss and Periodontal Disease
- Multi-Target Inhibitors for Pain Treatment
- Detection System for Small Molecules
- Small Molecule sEH Inhibitors to Treat Alpha-Synuclein Neurodegenerative Disorders
- Soluble Epoxide Hydrolase-Conditioned Stem Cells for Cardiac Cell-Based Therapy
- Targeting Cancer Cachexia with Soluble Epoxide Hydrolase Inhibitors
- Beneficial Effects of Novel Inhibitors of Soluble Epoxide Hydrolase as Adjuvant Treatment for Cardiac Cell-Based Therapy
- Antibodies: Bacillus Delta Endotoxin PAbs
- Antibodies: Bromacil Herbicide PAbs
- Potential Therapeutic Agent for Laminitis in Equines
- Novel Neuropathy Treatment Using Soluble Epoxide Inhibitors
- Novel and Specific Inhibitors of p21
- Antibodies for Pseudomonas (P.) aeruginosa
- Inhibitor for Preventing the Onset of Neurodevelopmental Disorders
- Antibodies: Urea Herbicide Pabs
- Bioavailable Dual sEH/PDE4 Inhibitor for Inflammatory Pain
- Methods of Improving Cancer Immunotherapy

- Chemical Synthesis of Lipid Mediator 22-HDoHE and Structural Analogs
- Antibodies: Triazine Herbicide Pabs
- Optimized Non-Addictive Biologics Targeting Sodium Channels Involved In Pain Signaling
- Soluble Epoxide Hydrolase Inhibitors For The Treatment Of Arrhythmogenic Cardiomyopathy And Related Diseases
- A New Pharmaceutical Therapy Target for Depression and Other Central Nervous System Diseases

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