

MEETING ABSTRACTS

UNCONVENTIONAL ENVIRONMENTAL TOXIC LIGANDS OF THE ARYL HYDROCARBON RECEPTOR (AhR)

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Activation of the aryl hydrocarbon receptor (AhR) represents a key toxic event elicited by numerous persistent organic pollutants and other environmental contaminants, such as polycyclic aromatic hydrocarbons (PAHs). At present, unlike so-called priority PAHs, the AhR-mediated activities of numerous other PAHs, substituted (e.g. methylated or halogenated PAHs) remain poorly defined. Importantly, these contaminants are often neglected, when toxicities of complex mixtures of environmental polyaromatic pollutants are being evaluated. Our past work has revealed that such compounds can indeed contribute significantly to overall AhR-mediated toxicities of mixtures of organic pollutants derived from freshwater sediments, airborne particles or direct products of combustion engines, such as diesel exhaust particles. This presentation is intended to provide an overview of principle groups of polycyclic aromatic contaminants, their AhR-mediated activities and strategies necessary to fill the gaps in our current knowledge of their toxicity, including their potential roles in endocrine and metabolic disruption.

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