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Individual and joint toxic effects of cadmium sulfate and α-naphthoflavone on the development of zebrafish embryo

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Key words: Joint toxicity; Cadmium sulfate; α-Naphthoflavone; Zebrafish embryo; Oxidative stress

Background

- Cadmium and polycyclic aromatic hydrocarbon (PAH) are widely distributed in the environment and caused significant toxicity in fishes.

- Besides, oxidative stress, CYP1A and ABC transporters have been considered to be important in the toxicity of both chemicals.

- Cadmium and PAH usually coexist in the environment, but the investigations on the joint toxicity of these chemicals are still rare.

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Co-treatment of Cd and ANF produced more severe damage in zebrafish embryos than individual treatment

Cd-ANF mixtures produced much more increase of the oxidative stress in zebrafish embryos

Co-treatment of Cd and ANF significantly down-regulated the mRNA level of cyp1a and mrp1

Production of oxidative stress and altered expression of *cyp1a* and *mrp1* could be important components of the joint toxicity of Cd and ANF

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