

Gene expression profiles of developing *Xenopus laevis* in response to estrogenic chemicals using DNA array.

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We investigated the influence of bisphenol-A (BPA) and nonylphenol (NP) on *Xenopus laevis* at embryonic and larval stages. Embryos were continually exposed to eight different concentrations of BPA (0.3-6.8 mg/L) or NP (0.2-11.0 mg/L) from 3 to 96 hours post fertilization. Reduced length, tail flexure, microcephaly, rudimental gut coiling and edema were observed at 4.4 mg/L BPA and 4.6 mg/L NP. To clarify the hypersensitive stages of developing *X. laevis* to these compounds, exposure terms were shortened for 48 hours and divided into 5 different periods. Shortening of body length was observed in the tadpoles exposed to BPA only at the earliest term. NP weakly affected in reduction of body length at early stage and markedly effective at later stages. To analyze the functional mechanisms of BPA and NP in induction of morphological changes, we adapted a DNA array technology and identified 464 clones induced or repressed by these chemicals, furthermore, 27 clones were entrained in several estrogenic compounds. These findings may provide the important clues to the elucidation of common and unique mechanisms that underlie teratogenic effects of these chemicals.