

**353-NONYLPHENOL INDUCES EXPRESSION OF THE  
T-BOX6 GENE IN ZEBRAFISH EMBRYOS – LINKING TRANSCRIPTIONAL  
INFORMATION WITH DEFORMITIES**

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**ABSTRACT**

Nonylphenols (NP) can be detected in the environment worldwide, the major component of the technical NP mixture, *p353*-NP, produce embryonic misdevelopment in zebrafish (*Danio rerio*). Phenotypes with comparable appearance were generated with knock out or other mutants in zebrafish embryos. The genes involved in these studies were: *no tail (ntl) gene*, *spade tail (spt) gene* and *tbox 6 (tbx6)gene*. Aim of this study was to correlate the observed teratogenic effect of *p353*-NP in zebrafish with expression analysis of genes of the T-Box family involved in normal development of the tail and therefore increase the understanding of the mechanisms by which NP-induced disease.

Zebrafish embryos were treated with sub lethal concentrations of different NP isomers. A unique phenotype with massively swollen tail tip was only seen using *p353*-NP. Expression of *ntl gene* and *spt gene* measured by real time PCR was unaltered while expression of *tbx6* massively increased after *p353*-NP administration.

**KEY WORDS** : *Danio rerio*, Nonylphenol, T-Box, no tail, spade tail, quantitative gene expression, embryonic Development