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Abstract

Expression Profiles Of Genes In The Fish *Danio rerio* Exposed To Environmental Samples Of Atoyac River, Mexico

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Abstract: The presence of endocrine disrupting compounds in the Atoyac river is reported more frequently, therefore is cause for concern scientific and public. They are characterized by their low biodegradability and bioaccumulate in the trophic chain. The objective of this study was evaluate the genes expression of cyp1a, hmox and vtg1 in male zebrafish after their exposure to samples coming from nine sites established in the river. The cDNA template was synthesized from RNAt. The real-time qPCR was performed using the TaqMan Universal PCR Master Mix. Our results show that the cyp1a gene increased its expression between 2.4 and 9.6 times, the hmox gene between 1.0 and 5.0 times and the vtg1 gene showed important increases of between 9.1 and 12.6 times. These genes tend to be induced or not change their expression in the different sampling points, a characteristic that marks them as potential molecular biomarker genes. The vtg1 and hmox, both associated with redox reactions, could be related to the conversion of cyp1a and hmox, both associated with redox reactions, could be related to the conversion of pollutants presents in the river and are absorbed by the fish, the oxidized forms and solubles, can be more easily excreted by the organism.

Key words: Danio rerio, qPCR, gene expression, molecular biomarkers, Atoyac river.

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