

Use of the self-fertilizing fish *Rivulus marmoratus* (Cyprinodontiformes, Rivulidae) for environmental biomonitoring

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The self-fertilizing *Rivulus marmoratus* (*R. marmoratus*) is a unique model for environmental biology study, as it is various good characteristics; high range of pH tolerance, tolerance of low oxygen level, sensitivity to various carcinogens as well as the accumulated knowledge of its biology. For testing its use for biomonitoring, we have cloned the cytochrome P450 1A (CYP1A) and aryl hydrocarbon receptor 2 (AhR2) gene from the *R. marmoratus* by polymerase chain reaction with conserved primers. We treated various doses of 3-methylcholanthrene and Aroclor 1252 to the *R. marmoratus* baby fishes with different ages, and found dose-dependent increase of expression level of the corresponding genes, as shown in mammalian model. We further discuss the sensitivity and usefulness of this species in relation to treatment of these chemicals.