Micronucleus test as a cytogenetic marker for evaluation of genotoxicity in fish, *Labeo rohita*

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**ABSTRACT**

Assessment of DNA damage is of primary concern when determining the pollution-related stress in living organisms. Micronucleus assays with fish have been shown to be useful in vivo techniques for genotoxicity testing and show potential for in situ monitoring of water quality. We used *Labeo rohita* yearling to investigate the genotoxicity of potassium dichromate, a soluble form of hexavalent chromium [Cr (VI)]. To evaluate genotoxic potential of hexavalent chromium [Cr (VI)] on aquatic animals, fish *Labeo rohita* were exposed to potassium dichromate. The 96 h LC$_{50}$ value of potassium dichromate was estimated 106.37 mg/l for the fish in a semi-static system. On the basis of 96 h LC$_{50}$, the sub lethal and nonlethal concentrations of the heavy metal were selected and the fish were exposed. The blood samples were collected from the exposed fish. The present study indicated that hexavalent chromium is a genotoxic agent for the acute exposure to *Labeo rohita* and Micronucleus test is a sensitive and rapid method to detect the effect.

**Key words**: *Labeo rohita*, DNA damage, Genotoxicity, Micronucleus test, Potassium dichromate