

[P-40]**METALLOTHIONEIN GENE EXPRESSION BY CADMIUM IN
CRUCIAN CARP (CARASSIUS AURATUS)**

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Methallothioneins(MTs) are low-molecular-mass cysteine-rich metal-binding proteins with high affinity for heavy metal ions, found in a large variety of organisms. Although the biological functions of MTS have not been fully elucidated, they are thought to play an important role in detoxification of toxic elements such as cadmium and mercury.

In this study, we established the measurement method of MT gene expression using RT-PCR in the kidney of crucian carp (*Carassius auratus*). Crucian carp were exposed 0.01, 0.1, 0.5 mg/l, respectively and kidneys were quickly removed and the tissue used for RNA extraction. PCR was done using primers based on the known gold fish cDNA sequence. As results, MT mRNA were induced in a time and dose-dependent manner. We also measured the cadmium accumulation in the kidney and compared the accumulation concentration and histological changes to MT mRNA induction.

keyword : Methallothionein, kidney, Crucian carp