Expression of Metallothionein Gen and Protein on Hepatopancreas, Gill and Muscle of Perna viridis Caused by Biotoxicity Hg, Pb and Cd

Authors : Yulia Irnidayanti , J. J. Josua, A. Sugianto

Abstract : Jakarta Bay with 13 rivers that flow into, the environment has deteriorated and is the most polluted bays in Asia. The entry of waste into the waters of the Bay of Jakarta has caused pollution. Heavy metal contamination has led to pollution levels and may cause toxicity to organisms that live in the sea, down to the cellular level and may affect the ecological balance. Various ways have been conducted to measure the impact of environmental degradation, such as by measuring the levels of contaminants in the environment, including measuring the accumulation of toxic compounds in the tissues of organisms. Biological responses or biomarkers known as a sensitive indicator but need relevant predictions. In heavy metal pollution monitoring, analysis of aquatic biota is very important from the analysis of the water itself. The content of metals in aquatic biota will usually always be increased from time to time due to the nature of metal bioaccumulation, so the aquatic biota is best used as an indicator of metal pollution in aquatic environments. The results of the content analysis results of sea water in coastal estuaries Angke, Kaliadem and Panimbang detected heavy metals cadmium, mercury, lead, but did not find zinc metal. Based on the results of protein electrophoresis methallotionein found heavy metals in the tissues hepatopancreas, gills and muscles, and also the mRNA expression of has detected.

Keywords : gills, heavy metal, hepatopancreas, metallothionein, muscle