

2307 **Metallothionein of Regenerating Rat Liver**

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Metallothionein(MT) is induced in the regenerating rat liver. We have investigated the expression of MT gene using RT PCR as well as the specific localization of MT using immunocytochemistry after partial hepatectomy(PH) in rats. MT mRNA level was continued to increase from 1 hr and significantly increased at 8 hr after hepatectomy. The level decreased gradually to 24 hr, and then the level showed similar to the control at 48 hr after the operation. On immunocytochemical study, in all groups treated with primary antibody, immunogold particles indicating the presence of MT were evenly distributed throughout both cytoplasm and nucleus of rat hepatocytes. Compared the reaction intensities, the labelling was slightly stronger in the nucleus than in the cytoplasm. Within the nucleus, the gold particles appeared to be intensely distributed in areas of euchromatin and the nucleolus, and less dense in number around heterochromatin. Within the cytoplasm, gold particles did not seem to adhere to mitochondria or lysosomes, but were freely distributed. However, rough endoplasmic reticulum is the obvious compartment on which the gold particles were localized. Time course of MT immunoreactivity revealed that distribution of gold particles in hepatocytes increased gradually by 24 hr, and decreased at 48 hr after PH. Briefly, PH resulted in the sharpest increase in the expression of MT mRNA at 8 hr and in the immunoreactivity of MT at 24 hr, respectively. It is suggested that the increase of MT mRNA expression, the intensity of immunoreactivity and the specific localization of MT may be associated with the compensatory cell proliferation that has been followed by PH.