

MASTER'S THESIS

Applications of the subtractive hybridization method to study gene expression in rat liver after cadmium exposure

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Application of the Subtractive Hybridization Method
to study Gene Expression in Rat Liver
after Cadmium Exposure

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ABSTRACT

Induction of gene expression in male Sprague-Dawley rat liver after a sublethal dose of CdCl_2 was studied using the subtractive hybridization method. Cd-induced liver cDNA was enriched by subtractive hybridization using normal liver mRNA as driver. The subtracted cDNA was further amplified by polymerase chain reaction and labeled for screening of Cd-induced cDNA clones from the cDNA library. Around 70 positive clones were identified. One of these clones was identified as rat α -2u globulin after DNA sequence analysis of the PCR product followed by a search for homology in the gene data banks. Northern blot analysis confirmed that besides metallothionein, α -2u globulin is also inducible by Cd.

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