Induction mechanism of expression of acute-phase protein genes by thyroid hormone

1993 Fiscal Year Final Research Report Summary

Induction mechanism of expression of acute-phase protein genes by thyroid hormone

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Single-year Grants

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Biological pharmacy

Research Institution

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Research Abstract

We found someresults as follows ;
1) Some cultured cell lines, which were established from rat liver and expressed AGP by glucocorticoid stimulation, were obtained. We are now investigating the expression mechanism by glucocorticoid.

2) The palindromic region in the 1st intron of rat AGP gene was thyroid hormone responsive element and postulated thyroid hormone receptorTTR) binding region. It was determined that TR bound this region.
3) Two DNaseI hypersensitive sites(HS-1 and 2) were found in 5'franking region of rat AGP gene. These regions were postulated to play an important role for gene expression induced by T3. These regions were subcloned. Binding protein(s) to these regions was studied by gel shift analysi, and the protein which specifically bind to these regions was observed.
4) The HS-2 fragments, one of two DNA fragments above, was further subcloned into two fragments, HS2a, and HS2b. There found specific binding protein(s) toboth of HS2a and HS2b.
5) The same protein(s) could bind to HS2a and HS2b, we found.
6) The protein(s) was partially purified and characterized by South-Western method. The MWs of proteins that bound to these fragments were 120k, 77k, and 55k, for both fragments. It was further confirmed that the same protein(s) bound to two different fragments.
The binding sites were determined by Methylation-interference Assay, and was different in the two fragments.