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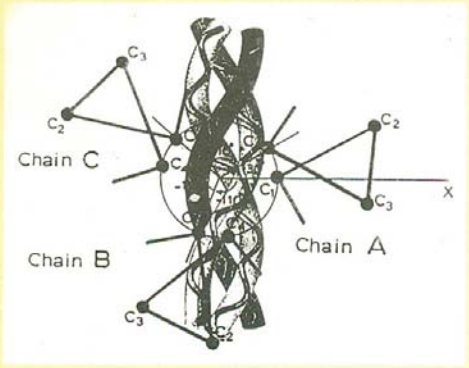
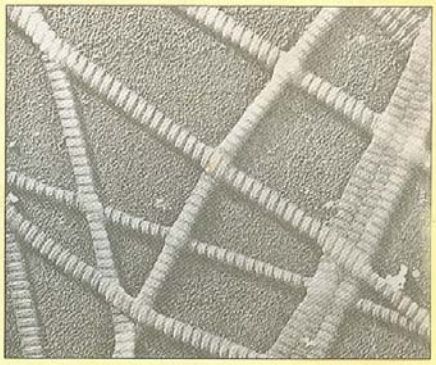
ABSTRACTS





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CENTRAL LEATHER RESEARCH INSTITUTE

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Molecular Characteristics of Dimethylnitrosamine Induced Fibrotic Liver Collagen

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Dimethylnitrosamine (DMN) was used to induce hepatic fibrosis in adult male albino rats. The molecular characteristics of purified pepsin solubilized liver collagen was studied in control and DMN administered animals. The α and β-chains of purified pepsin solubilized collagen were separated by subjecting the denatured collagen to SDS-polyacrylamide gel electrophoresis. The α1(III) chains were resolved from the α1(I) chains by interrupted electrophoresis with delayed reduction of the disulfide bonds of type III collagen. The aldehyde content and fibril formation curves were also studied in order to assess the extent of collagen crosslinking. The results of the uninterrupted electrophoretic studies revealed a significant increase in the β -subunit of type I collagen with a remarkable decrease of α/β ratio in DMN treated animals. Reduction with β-mercaptoethanol indicated the presence of type III collagen in the electrophoretic field with a prominent increase on 21st day. A significant increase in the aldehyde content and an increased rate of fibril formation were also noticed in DMN induced fibrotic liver collagen. The results of the present investigation revealed a higher degree of crosslinking in DMN induced fibrotic liver collagen.