〔Biochem. J., **279**, 263-267 (1991)〕 [Lab. of Pharmaceutics]

Non-enzymic glycation of human extracellular superoxide dismutase.

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In vitro EC-SOD C could be time-dependently glycated. The enzymic activity was not affected in glycated EC-SOD, but the high heparin-affinity was lost in about half of glycated fraction. The findings suggest that the glycation sites may occur on lysine residues in the heparin-binding domain in the C-terminal end. The proportion of glycated EC-SOD in serum of diabetic patients was considerably higher than in normal subjects. It was appeared that glycation is one of the factors that contribute to the heterogeneity in heparin-affinity of plasma EC-SOD. Since this phenomenon is increased in diabetes, the cell-surface-associated EC-SOD may be decreased, increasing the susceptibility of cells to superoxide radicals produced in the extracellular space.

〔Tumor Biol., **12**, 230-236 (1991)〕 [Lab. of Pharmaceutics]

A Hybrid Form of Alkaline Phosphatase Produced in FL-Amnion Cells.

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FL-amnion cells have mainly two alkaline phosphatase (AP) isozymes, of which the faster migrating one (FL-AP_F) on 5% polyacrylamide gel electrophoresis has proved to be identical to the Kasahara isozyme, a tumor-associated AP of intestinal type. But the other slower migrating one (FL-AP_S) remains to be characterized.

Immunological and enzymic examination of purified FL-AP_S revealed that it is a hybrid form of AP consisting of one subunit with a molecular weight of 66,200 coming from the same subunit as that of FL-AP_F and another one with a molecular weight of 58,000 from placental AP subunit with modified glycosylation.

〔Arch. Biochem. Biophys., **284**, 320-325 (1991)〕 [Lab. of Pharmaceutics]

Purification and Partial Characterization of Intestinal-like Alkaline Phosphatase in Rabbit Kidney.

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Two types of alkaline phosphatase (AP) isozymes in rabbit kidney, a major intestinal-like type and a minor tissue-unspecific type, have been idintified. The former enzyme was purified from rabbit kidney by immunoaffinity chromatography using monoclonal anti-human intestinal AP antibody. The purified enzyme yielded a single protein band on sodium dodecyl sulfate-polyacrylamide gel electrophoresis, and the apparent molecular size of its monomer subunit was found to be 72,000. Three amino acid residues within the first 16 N-terminal amino acid residues were different in purified AP and human intestinal AP.