〔Chem. Pharm. Bull., **40**, 2857-2859 (1992)〕 [Lab. of Pharmaceutics]

Purification and Characterization of Hamster Hepatic Microsomal *N,O*-Acetyltransferase.

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A microsomal *N,O*-acetyltransferase which activates carcinogenic arylacetohydroxamic acids was purified 75-fold from hamster liver. The purified enzyme, AT-2, was a glycoprotein with a molecular weight of 60000 and pI value of 5.4. The N-terminal amino acid sequence of AT-2 was : Asp-Ser-Pro-Ser-Pro-Ile-Arg-Asn-Thr-His-Thr-Gly-Gln-Val-Arg-Gly-Leu-Val-His-Lys-. AT-2 catalyzed the hydrolysis of 4-nitrophenyl acetate and the *N,O*-acetyltransfer of *N*-hydroxy-2-acetylaminofluorene. Both enzyme activities were strongly inhibited by paraoxon, but not by iodoacetamide. These results demonstrate that this *N,O*-acetyltransferase is a member of carboxylesterase.

〔Clin. Chem., **38**, 2539-2542 (1992)〕 [Lab. of Pharmaceutics]

Chemical Nature of Intestinal-Type Alkaline Phosphatase in Human Kidney.

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The NH_2-terminal sequence of the renal intestinal-type alkaline phosphatase was shown to be identical to sequences of the adult and meconial alkaline phosphatases except for the NH_2-terminal-valine residue, which is missing in the renal intestinal-type enzyme. The oligosaccharide chains of the renal intestinal-type alkaline phosphatase were shown to differ from those of meconial and adult intestinal alkaline phosphatases, as revealed by lectin affinity chromatography. The heterogeneity of the intestinal-type alkaline phosphatase can therefore be generated both partial peptide bond hydrolysis and differences in glycosylation.

〔Clin. Chim. Acta, **212**, 89-102 (1992)〕 [Lab. of Pharmaceutics]

Quantitative Analysis of Extracellular-Superoxide Dismutase in Serum and Urine by ELISA with Monoclonal Antibody.

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EC-SOD is the major SOD isozyme in plasma and forms an equilibrium between the plasma phase and heparan sulfate proteoglycan on the surface of the endothelium. An ELISA method for the measurement of human EC-SOD with monoclonal antibody was established. EC-SOD levels in sera from healthy persons are divided into two groups : a lower group (Group I, below 120 ng/ml, n=146) and higher group (Group II, above 400 ng/ml, n=10). The serum EC-SOD in Group I is heterogeneous with regard to affinity for heparin-Sepharose and could be separated into three fractions, whereas the EC-SOD in Group II is mainly one fraction with a high affinity for the column.