〔Comp. Biochem. Physiol., **83B**, 813 (1986)〕

Purification and Characterization of Purple Acid Phosphatase from Rat Bone.

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1. An acid phosphatase, which was immunochemically identical to splenic purple acid phosphatase, was purified to homogeneity from rat bone.

2. The enzyme was a two iron-containing monomeric glycoprotein with a mol. wt of 36,000.

3. The enzyme hydrolyzed aryl phosphates, nucleoside di- and triphosphates, thiamine pyrophosphate, phosphoenolpyruvic acid and acidic phosphoproteins.

4. The enzyme was inhibited bya mmonium molybdate, NaF and $CuSO_4$ but not by tartarate and SH- reagents.

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Carbonyl Reductase of Dog Liver: Purification, Properties, and Kinetic Mechanism.

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A carbonyl reductase has been purified from dog liver to homogeneity by a three-step procedure. The enzyme is a dimer with a molecular weight 54,000 and pI 9.3. The enzyme reduces aromatic ketones and aldehydes; the aromatic ketones with adjacent medium alkyl chains are the best substrates. As a cofactor the enzyme utilizes NADPH, the *pro-S* hydrogen atom of which is transferred to the substrate. Two moles of NADPH bind to one mole of the enzyme molecule, causing a blue shift and enhancement of the cofactor fluorescence. The reductase reaction is reversible and the equiliblium constant determined at pH 7.0 is 12.8. Steady-state kinetic measurements in both directions suggest that the reaction proceeds through a di-iso ordered bi-bi mechanism.

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Isolation of Multiple Forms of Indanol Dehydrogenase Associated with 17β-Hydroxysteroid Dehydrogenase Activity from Male Rabbit Liver.

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Seven monomeric indanol dehydrogenases were purified from male rabbit liver cyctosol. All the enzymes oxidized alicyclic alcohols including benzene dihydrodiol and hydroxysteroids at different optimal pH, but showed clear differences in cofactor specificity, steroid specificity and reversibility of the reaction. All enzymes exhibited *Km* values lower for the hydroxysteroids than for the alicyclic alcohols. The results of mixed substrate experiment, pH and heat stability, and inhibitor sensitivity suggested strongly that, in the seven enzymes, both alicyclic alcohol dehydrogenase and hydroxysteroid dehydrogenase activities reside on a single enzyme protein.