〔Comp. Biochem. Physiol., **82B**, 269 (1985)〕

Characterization of Fe^{2+}-Activated Acid Phosphatase in Rat Epidermis. AKIRA HARA. TAKASHI KATO, HIDEO SAWADA*, KIMIE FUKUYAMA, W. L. EPSTEIN

A particulate acid phosphatase (EC 3.1.3.2, orthophosphoric monoester phosphohydrolase (acid optimum)) was extracted in 1 M KCl, from 2-day-old rat epidermis. The enzyme has a Mr of 32,000, but two forms, F1 and F2 with pI values of 8.6 and 8.3, respectively, were identified while the pI values of other acid phosphatases soluble in sucrose and Triton X-100 were all acidic. F1 and F2 also differed from other epidermal acid phosphatases because they were (a) activated by Fe^{2+} and reducing agents, (b) showed immunological cross-reactivity with purple acid phosphatase of rat spleen and (c) dephosphorylated phosvitin and α-casein even though they had rather high Km values.

〔Biochem. J., **225**, 177 (1985)〕

Ginea-Pig Liver Testosterone 17β-Dehydrogcnase ($NADP^+$) and Aldehyde Reductase Exhibit Benzene Dihydrodiol Dehydrogenase Activity. AKIRA HARA, MASAKAZU HAYASHIBARA, TOSHIHIRO NAKAYAMA, KAZUHISA HASEBE, SHIGEYUKI USUI, HIDEO SAWADA*

We have kinetically and immunologically demonstrated that testostetrone 17β-dehydrogenase isozymes and aldehyde reductase from guinea-pig liver catalyse the oxidation of benzene dihydrodiol to catechol. One isozyme of testosterone 17β-dehydrogenase, which has specificity for 5β-androstanes, oxidized benzene dihydrodiol at a 3-fold higher rate than 5β-dihydrotestosterone, and showed a more than 4-fold higher affinity for benzene dihydrodiol and V_{max} value than did another isozyme, which exhibits specificity for 5α-androstanes, and aldehyde reductase.

〔J. Biochem., **98**, 1131 (1985)〕

Specificity of Hydrogen Transfer of Mammalian and Avian Carbonyl and Aldehyde Reductases. TOSHIHIRO NAKAYAMA, AKIRA HARA, KIN-YA KARIYA, HIDEO SAWADA*

Aldehyde reductases from several mammalian tissues and chicken kidney transferred the *pro-4R* hydrogen of NADPH to the substrate, but the stereospecificity of carbonyl reductase from the tissues was not uniform. Carbonyl reductases from rat and guinea pig liver, which were associated with 3α- and 17β-hydroxysteroid dehydrogenase activities, were A-specific, whereas the enzymes from livers of man and monkey, guinea pig lung and chicken kidney, which did not exhibit the hydroxysteroid dehydrogenase activities, were all B-specific.