〔Biochem. J., **266**, 583 (1990)〕

Demonstration of 3α (17β)-hydroxysteroid dehydrogenase distinct from 3α-hydroxysteroid dehydrogenase in hamster liver.

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NAD-linked and NADP-linked 3α-hydroxysteroid dehydrogenases were purified from hamster liver cytosol. The two monomeric enzymes with Mr-38,000 differed in pI values, activation energy, heat stability and peptide fragment patterns. The NADP-linked enzyme catalyzed the oxidation of various 3α-hydroxysteroids, whereas the NAD-linked enzyme oxidized both 3α- and 17β-hydroxysteroids. The thermal stabilities of the 3α- and 17β-hydroxysteroid dehydrogenase activities of the NAD-linked enzyme were identical, and the two enzyme activities were inhibited by mixing 17α- and 3β-hydroxysteroid substrates, respectively. Synthetic steroids and 3β-hydroxysteroids competitively inhibited 3α- and 17β-hydroxysteroid dehydrogenase activities of the enzyme.

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Purification and properties of multiple forms of dihydrodiol dehydrogenase from human liver.

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Two acidic and three basic forms of monoeric dihyrodiol dehydrogenase with molecular weights in the range of 36,000-39,000 were purified from human liver. One acidic enzyme was immunologically identified as aldehyde reductase. Two of the basic enzymes exhibited a 20α-hydroxysteroid dehydrogenase activity and was sensitive to 1,10-phenanthroline, whereas the third basic enzyme oxidized some 3α-hydroxysteroids at low rates and was inhibited by cyclopentane-1,1-diacetic acid. Another acidic enzyme showed a high 3α-hydroxysteroid dehydrogenase activity and was the most sensitive to inhibition by medroxyprogesterone acetate. The Km values of the enzymes, except aldehyde reductase, for hydroxysteroids were lower than for xenobiotic alcohols.

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Primary Structure of Vitamin K-dependent Human Protein Z.

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The primary structure of a vitamin K-dependent human protein Z was determined by a combination of analyses of 41 amino acid residues of the NH_2-terminal region and 1265 nucleotide base pairs of a cDNA encoding the residual COOH-terminal part of the protein and the 3′ noncoding region. Human protein Z has 360 amino acid residnes which is less than that of bovine protein Z containing 396 residues. Human protein Z was composed of an NH_2-terminal domain rich in γ-carboxyglutamic acids, two epidermal growth factor-like domains and a COOH-terminal serine protease-like domain as was bovine proteinZ.