〔Chem. Pharm. Bull., **37**, 1662 (1989)〕

Inhibition of Human Placenta Aldose Reductase by Tannic Acid.

HIDEO SAWADA,* MICHIKO HAMATAKE, AKIRA HARA, MAKOTO NAKAGAWA, TOSHIHIRO NAKAYAMA

Tannic acid was found to be a highly potent inhibitor of human placenta aldose reductase. The most potent inhibitory component of the tannic acid was isolated and identified as penta-*O*-galloyl-β-D-glucose, which showed an IC_{50} value of 70 nM. The inhibition by the gallotannin was reversible and of mixed type with respect to DL-glyceraldehyde as the varied substrate.

〔Chem. Pharm. Bull., **37**, 2852 (1989)〕

Purification and Properties of Multiple Forms of Dihydrodiol Dehydrogenase from Monkey Liver.

MAKOTO NAKAGAWA, TATSUHIRO HARADA, AKIRA HARA, TOSHIHIRO NAKAYAMA, HIDEO SAWADA*

Two major and two minor forms of dihydrodiol dehydrogenase with similar molecular weights of around 36,000 were purified from monkey liver cytosol. All the forms oxidized *trans*-dihydrodiols of benzene and naphthalene and reduced aromatic aldehydes, but showed differences in specificity for other substrates and inhibitor sensitivity. The results indicate that one major (pI 8.7) and one minor (pI 7.9) form of the enzyme are indanol dehydrogenases, the other major form (pI 6.2) is 3α-hydroxysteroid dehydrogenase and the other minor form (pI 5.8) cross-reacted with human aldehyde reductase is aldehyde reductase.

〔J. Biochem., **106**, 633 (1989)〕

Identification of Two Dihydrodiol Dehydrogenases Associated with 3(17)α-Hydroxysteroid Dehydrogenase Activity in Mouse Kidney.

MAKOTO NAKAGAWA, FUMITAKE TSUKADA, TOSHIHIRO NAKAYAMA, KAZUYA MATSUURA, AKIRA HARA, HIDEO SAWADA*

Three minor and one major forms of dihydrodiol dehydrogenase were in the kidney cytosol. Two minor forms are immunologically identical to hepatic 3α-hydroxysteroid dehydrogenase and aldehyde reductase, respectively. The other minor and the major forms Mr 39,000 distinct from the hepatic enzymes oxidized *trans*-dihydrodiols of benzene and naphthalene, *cis*-benzene dihydrodiol and alicyclic alcohols in the presence of $NAD(P)^+$, and reduced several xenobiotic aldehydes and ketones with NAD(P)H as a cofactor. The enzymes also oxidized 3α-hydroxysteroids and epitestosterone, and reduced 3- and 17-ketosteroids. They may be identical to 3(17)α-hydroxysteroid dehydrogenases.