[J. Biol. Chem., **270**, 10461-10467 (1995)] [Lab. of Biochemistry]

**Molecular Cloning and Characterization of Mouse Estradiol 17 $\beta$ - Dehydrogenase (A-Specific), a Member of the Aldoketoreductase Family.**

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We report the isolation and characterization of a mouse cDNA clone encoding 17 $\beta$-hydroxysteroid dehydrogenase (17 $\beta$ -HSD) of the liver. This clone had an entire coding region for a protein of 323 amino acid residues, and the deduced sequence of the protein aligned with a high degree of identity with the enzymes of aldoketoreductase family. The expression of the cDNA resulted in synthesis of a protein that was active toward androgens, estrogens, and xenobiotic substrates. The content of a 1.7-kilobase 17 $\beta$-HSD mRNA was considerably more abundant than those found in other tissues, as 17 $\beta$-HSD protein was mainly detected in the liver by Western analysis.

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**Suppression of Azoxymethane-induced Colonic Aberrant Crypt Foci by Dietary Exposure to a Novel Synthesized Retinoidal Butenolide, 5-Hydroxy-4-(2-phenyl-(*E*)ethenyl)-2(5*H*)-furanone, in Rats.**

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The modifying effect of dietary exposure to a novel synthesized retinoidal butenolide (KYN-5) on the development of azoxymethane (AOM)-induced colonic aberrant crypt foci (ACF) was investigated in rats. In rats given AOM and KYN-54, the frequency of ACF/colon, ODC activity and polyamine levels and the mean AgNORs number were significantly decreased compared with that in rats given AOM alone. These results provide further evidence that KYN-54 could be a chemopreventive agent.

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**Chemoprevention of N-Methyl-N-nitorosourea-induced Rat Glandular Stomach Carcinogenesis by a Natural Product-Protocatechuic Acid.**

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To determine the chemopreventive activity of a simple phenolic acid protocatechuic acid (PCA), male F344 rats were initiated with in drinking water containing 400 ppm N-methyl-N-nitorosourea (MNU) for 12 weeks. Treatment MNU with PCA decreased the blood polyamine concentration, the 5-bromodeoxyuridine labeling index and the number of silver-stained nucleolar organizer regions. The results suggest a chemopreventive action of PCA in chemically induced carcinogenesis of the glandular stomach in addition to other organs and a possible mechanism by which such inhibition might be related to supression of cell proliferation.