

[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.**

YOSHIHIRO DEYASHIKI, KIYOSHI OHSHIMA, MASAYUKI NAKANISHI,  
KUMIKO SATO, KAZUYA MATSUURA, AKIRA HARA\*

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.

[Cancer Lett., **92**, 159-165 (1995)]

[Lab. of Biochemistry]

**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(5H)-furanone, in Rats.**

TOSHIHIKO KAWAMORI, TAKUZI TANAKA, YOSHINOBU HIROSE, KUMIKO SATOH, AKIRA HARA\*,  
MASAHIRO TORIHARA, YOSHIN TAMAI, JOHJI YAMAHARA, HIDEKI MORI

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.

[Cancer J., **8**, 150-156 (1995)]

[Lab. of Biochemistry]

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

TAKUZI TANAKA, MASAMI OHNISHI, TOSHIYUKI KOJIMA,  
HIDEKI MORI, KUMIKO SATOH, AKIRA HARA\*

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-nitrosourea (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 suppression of cell proliferation.