[Carcinogenesis, **16**, 2171-2176 (1995)] [Lab. of Biochemistry]

Inhibition of 4-Nitroquinoline-1-oxide-induced Rat Oral Carcinogenesis by Dietary Exposure of a New Retinoidal Butenolide, KYN-54, During the Initiation and Post-initiation Phases.

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The modifying effect of dietary exposure of newly synthesized retinoidal butenolide (KYN-54) during the initiation and post-initiation phases of oral carcinogenesis initiated with 4-nitroquinoline-1-oxide (4NQO) was investigated. Feeding of KYN-54 decreased 5-bromodeoxyuridine-labeling index, AgNORs and polyamine level compared with 4NQO alone. These results indicate that KYN-54 inhibits oral carcinogenesis and such inhibition may be related to suppression of cell proliferation.

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Chemoprevention of Urinary Bladder Carcinogenesis by the Natural Phenolic Compound Protocatechuic Acid in Rats.

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The modifying effect of deitary administration of protocatechuic acid (PCA) during the initiation and postinitiation phases on N-butyl-N-(4-hydroxybutyl)nitrosamine (BBN)-induced bladder carcinogenesis was investigated in male F344 rats. PCA feeding significantly reduced the number of AgNORs and PCNA-positive cells in the nonlesional transitional epithelium, preneoplasms, and neoplasms in the urinary bladder of rats treated with BBN. These results indicate that dietary administration of PCA is quite effective in preventing BBN-induced bladder carcinogenesis.

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Crystalization of Mouse Lung Carbonyl Reductase Complexed with NADPH and Analysis of Symmetry of its Tetrametic Molecule.

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Mouse lung carbonyl reductase (MLCR), which belongs to the short-chain dehydrogenase/reductase family, is an oxidoreductase involved in the metabolism of biogenic and xenobiotic carbonyl compounds. The crystals of MLCR complexed with its cofactor NADPH belong to a monoclinic space group $P2_1$ with demensions a=79.73 Å , b=105.5 Å , c=60.87 Å and β =91.43 degrees. X-Ray diffraction data were collected up to 1.8 Å resolution using a macromolecule-oriented Weissenberg camera at the Photon Factory synchrotron radiation source. This suggests that the tetrametic MLCR molecule has the 222 point group symmetry.