in radical yields of the two complexes suggested that Ro-07-0582 scavenged electrons which may recombine with the cationic holes of sugar moiety.

The effect of Ro-07-0582 on dCMP- and dGMP-Ro-07-0582 complexes was almost indiscernible. The result shows that electrons do not transfer from the nucleotides to the sensitizer. This interpretation is supported by the observation that the mechanism of radical formation in dCMP and dGMP did not involve the electron transfer process.

It may be concluded that the TMP and dAMP moieties can be taken as possible sites in which Ro-07-0582 shows a remarkable effect on the DNA radicals. Damages in the sugar moieties of TMP and dAMP appear to result in an increase of double strand breaks of DNA. Thus, the increase of double strand breaks induced by Ro-07-0582 in the TMP-dAMP pair of DNA helix may be responsible for the radiosensitization mechanism.

DISTRIBUTION AND LOCALIZATION OF ADENYLATE KINASE ISOZYMES IN PORCINE TISSUES

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Porcine heart adenylate kinase can be separated into acidic and basic isozymes by isoelectrofocusing. The former is similar to the bovine liver mitochondrial adenylate kinase, and the latter is identical to the skeletal muscle and erythrocyte adenylate kinases (KUBO, S. and NODA, L. 1974; ITAKURA, T. et al. 1977; MIWA, N. et al. 1978).

The acidic enzyme prepared from the heart reacted only to rabbit anti-acidic enzymes but not to rabbit anti-basic enzymes in the double diffusion and antibody inhibition tests, whereas the basic enzyme prepared from the skeletal muscle reacted only to rabbit anti-basic enzymes and not to rabbit anti-acidic enzymes.

Adenylate kinase activities in porcine tissue extracts were almost completely inhibited by both anti-isozymes. Organ specificity was observed in isoelectrofocusing profiles of adenylate kinase from several tissues, but each enzyme fraction separated by the isoelectrofocusing was completely inhibited either by anti-acidic or anti-basic enzymes. These results indicate that there are two main kinds of adenylate kinase isozymes—acidic and basic adenylate kinases—in porcine tissues.

Concerning the activity distribution of these two isozymes in subcellular fractions of porcine liver, the acidic adenylate kinase were localized mainly in the mitochondrial and cytosol fractions, whereas the basic adenylate kinase existed only in the cytosol fraction.

STUDIES ON DIPHYLLOBOTHRIID CESTODES IN HOKKAIDO

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The author investigated diphyllobothriid cestodes in Hokkaido, Japan; 6 species belonging to 2 genera were found: *Diphyllobothrium latum* (LINNAEUS, 1758) from the dog, man and polar bear, *Thalarctos maritimus* (PHIPPS); *Diphyllobothrium* sp. No. 1 from the brown bear, *Ursus arctos yesoensis* LYDEKKER; *Diphyllobothrium* spp. Nos. 2 & 3 from the dog; *D. erinaceieuropaei* (RUDOLPHI, 1819) from the dog, cat, and red fox, *Vulpes vulpes schrencki* KISHIDA, and *Diplogonoporus* sp. from the Steller sea lion, *Eumetopias jubatus* SCHREBER. *Diphyllobothrium* spp. Nos. 1–3 and *Diplogonoporus* sp. differ from other valid diphyllobothriid species; moreover, *Diphyllobothrium* spp. Nos. 2 & 3 were regarded as species of marine mammals. *D. latum* varied with its hosts in some morphological characteristics, especially in the distribution of genital papillae, the morphology of uterine loops, and the size of the eggs. The common scientific name *D. erinacei* or *D. mansoni* should be changed to RUDOLPHI's original name *D. erinaceieuropaei*, in accordance with the International Code of Zoological Nomenclature.

For the study of plerocercoids of *D. latum*, freshwater salmonoid fishes, *Oncorhynchus masou* (BREVOORT), *Salvelinus leucomaenis* (PALLAS) and *S. malma* (WALBAUM) from 13 rivers were examined. Plerocercoids were obtained only from anadromous *O. masou* in the Mena River; the infection rate of plerocercoids was 4.5% in 1976 and 27.9% in 1977. The author, however, suspects that *D. latum* infection from copepods to salmons rarely occurred in the middle and upper waters of the Mena River because of a negative record of plerocercoid from *O. masou* in the young freshwater stage in 1976 and 1977, and also because of the ecological relationship among copepod, *O. masou* and *D. latum*.