in cancer cells and the degree of differentiation of this organ-specific isozyme whose pattern changes irreversibly in the course of development. The activity of the marker enzyme does not change in regenerating liver or after various hormonal treatments. H. Inoue (University of Wisconsin Medical School, Madison) observed two forms of the enzyme serine dehydratase in liver and hepatomas. The two forms appear to be regulated by different environmental mechanisms. Serine dehydratase in the rat occurs only in the liver. These studies again emphasize that the mammalian cell must have considerably greater flexibility in the regulation of enzyme synthesis than the bacterial cell. This may in part be due to the complex structure of the mammalian cell with spatial separation of the synthesis of different forms or to even more subtle distinctions in the regulation of the synthesis of such closely related isozymes.

In a session on Control Mechanisms in Tumors, V. R. Potter (University of Wisconsin Medical School, Madison) described the induction of an enzyme in Morris hepatoma 9618-A that was thought to be noninducible. Tyrosine transaminase in hepatoma 9618-A is very low in activity on standard diets and is unaffected by a 60 percent protein diet or by hydrocortisone injections, either of which induces high amounts of activity in normal liver. Thus it might have been assumed to be "uninducible" or "deleted." Potter reported that such interpretations were now untenable and that the lack of an enzyme or the failure to induce an enzyme under conditions that result in enzyme induction in differentiated tissues of adults no longer suffices to define the state of the genome in a neoplasm. The experiment in which the enzyme was induced in the hepatoma was the culmination of numerous trials using inductive procedures designed on the assumption that the hepatoma cells resemble fetal cells more closely than they resemble adult liver cells. G. Galli (University of Milan, Milan, Italy) investigated the latest stages of cholesterol biosynthesis in rat liver, in growing and adult central nervous systems, and in experimental and spontaneous brain tumors. The incorporation of a specific precursor (mevalonic acid) in the individual sterols, particularly in brain and brain tumors, was established, and a biosynthetic sequence was described. A new precursor of cholesterol, 4,4-dimethyl-5α-cholesta-8,14 dien-3 β-ol, was identified, and its formation and role were discussed. G. A. LePage (University of Texas, Houston) discussed two examples in which the tumors had suffered partial deletion of catabolic enzymes or changes in enzyme-substrate specificity. In one case, the alpha-enomer of a fraudulent nucleoside was inert in mouse bone marrow but was phosphorylated to the active nucleotide form in some neoplastic tissues. Neoplastic tissues that phosphorylated the nucleoside, alpha-2′-deoxythioguanosine, were responsive to treatment with this nucleoside. In a second case the analogs of adenosine, arabinosyladenine, and xylosyladenine were carcinostatic in some neoplasms. Evidence was obtained for variation in the relative rates of deamination of ribosyladenine, arabinosyladenine, and xylosyladenine from one species to another and from one tumor to another within a species.

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Notes

1. The full text of the papers, edited by the chairman of the conference, George Weber, will be published in the spring of 1970 as volume 8 of *Advances in Enzyme Regulation* (Pergamon, New York and Oxford, in press).
2. The conference was sponsored by the Indiana University School of Medicine, Burroughs-Wellcome and Co., Hoffman-LaRoche, Eli Lilly and Co., and the Squibb Institute for Medical Research.

Courses

Summer Institute on Surtsey, 15 June–1 July. An interdisciplinary course to study the geological, geochemical, geophysical, biological, and ecological implications of the new volcanic island, Surtsey, and selected areas of Iceland. Is intended for university teachers and research workers. Financial support is available for 14 participants. *Deadline for receipt of applications*: 1 March. (Prof. James W. Skehan, S.J., Department of Geology and Geophysics, Boston College, Chestnut Hill, Mass. 02167)

Field Ion and Field Emission Microscopy, Gainesville, Fla., 23–27 March. Among the subjects to be covered are geometry of surfaces and computer techniques, electronic structure of surfaces, field electron emission, field ionization and image formation, field evaporation, grain boundaries and interfaces, metallurgical applications, and atomic order. Travel and subsistence allowances and/or tuition waivers have been made available by the National Science Foundation. (Dr. J. J. Hren, Department of Metallurgical and Materials Engineering, University of Florida, Gainesville 32601)