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BOOK REVIEWS

STRATHERN, J. N., JONES, E. W., BROACH, J. R. (ed.): THE MOLECULAR BIOLOGY OF THE YEAST *SACCHAROMYCES*. MONOGRAPH 11B. METABOLISM AND GENE EXPRESSION. — Cold Spring Harbor Laboratory 1982. 680 pp. Cloth US \$ 60. — (outside USA 72. —).

The budding yeast is an eukaryote which is amenable to genetic as well as biochemical and physiological analyses. The first book of this two-volume monograph on molecular biology of the yeast dealing with its life cycle and inheritance was published in 1981. The second book presents a comprehensive examination of the metabolism and gene expression of yeast. In the initial chapters, emphasis is primarily on the carbohydrate, nitrogen, galactose and phosphate metabolism while the subsequent chapters deal with membrane lipids of yeasts and with the regulation of amino acid and nucleotide biosynthesis. One of the major impacts of yeasts in molecular biology is its use for investigating processes that are different in prokaryotes and eukaryotes. Data presented in a chapter on translation reveal that the nucleotide sequence that effects the initiation of translation in yeasts may be fundamentally different from the features in *Escherichia coli*. In addition to chapters on transport, the secretory process, cell wall and cell surface, the book covers the organization and expression of tRNA, ribosome structure, function and synthesis and the nuclear RNA polymerases. The final chapter discusses the principles and practice of recombinant DNA research with yeasts. Useful appendixes provide a genetic map of yeasts and a list of biochemical markers of yeast organelles.

Serving both as a review of fundamental theory and a summary of recent research, these two volumes on the molecular biology of the yeast will be a valuable reference for workers in the field of yeast research.

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ORGANIZATION OF THE CYTOPLASM. COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY Vol. XLVI. — Cold Spring Harbor Laboratory, Cold Spring Harbor 1982. 1047 pp. in two parts. Cloth US \$ 130.00 (USA), 156.00 (elsewhere).

In the last years, the Symposia on Quantitative Biology, organized by the Cold Spring Harbor Laboratory, have been predominantly devoted to the problems of molecular genetics. The subject of the Symposium in 1981, however, was cytoplasm, which has attracted attention of molecular biologists especially in the last decade, when tremendous scientific efforts have been aimed at the molecular genetics of eukaryotic cells. In spite of the fact that the molecular mechanisms of cytoplasmic organization and functioning are not known as well as in the case of nucleus, considerable progress is unmistakable. It is possible to note that the most interesting information in this respect is obtained with approaches and methods of molecular genetics, starting with cloning and sequencing of genes for important cytoplasmic components, and following with studies on their organization and expression. Moreover, many conventional biochemical techniques have been improved and have helped largely to characterize molecular organization of cytoplasm. Traditional view on cytoplasm has been overcome and the new one shows the cytoplasm as structurally and functionally highly organized cell region. The reviewed book, the lectures given at the CSH Symposium are collected in, represents the survey of contemporary knowledge of molecular biology of cytoplasm. This theme is divided into four main blocks, as follows: Principles of Organization, Elements of Organization, Cell Surface, and Mechanisms of Organization. In the last chapter (Nucleus and Cytoplasm) and in the Summary as well as in many other contributions the dynamic view on the cell is emphasized, arising from close relations between nucleus and cytoplasm on one hand and cytoplasm and cell surface on the other.

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