Miami Winter Symposia Volume 16

# From Gene to Protein: Information Transfer in Normal and Abnormal Cells

Edited by Thomas R. Russell Keith Brew Harvey Faber Julius Schultz

## FROM GENE TO PROTEIN: INFORMATION TRANSFER IN NORMAL AND ABNORMAL CELLS

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The Papanicolaou Cancer Research Institute

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#### **PREFACE**

This volume is the sixteenth in the continuing series published under the title "Miami Winter Symposia." In January 1969, the Department of Biochemistry of the University of Miami and the University-affiliated Papanicolaou Cancer Research Institute organized the first of these symposia. This is the eleventh year in which the symposia have been held.

As topics for the Miami Winter Symposia, we select areas of biochemistry in which recent progress offers new insights into the molecular basis of biological phenomena. Until 1977, we organized two symposia. The first, sponsored by the Department of Biochemistry, emphasized the basic science aspects of the chosen topic, while the second, sponsored by the Papanicolaou Cancer Research Institute, dealt with the application of this research to the cancer problem. The proceedings of each symposia were published in separate volumes. With cancer research becoming increasingly concerned with basic cellular mechanisms, the division of the symposia into basic research and cancer-related research became rather academic. For this reason the 1978 meeting was organized as a single symposium and the proceedings were published in a single volume, a practice that we have continued this year. This year's symposium is entitled "From Gene to Protein: Information Transfer in Normal and Abnormal Cells." The broad nature of the subject enabled us to bring together, as speakers, scientists from technically diverse fields who have a common interest in the expression and processing of genetic information at the levels of both nucleic acids and proteins. To bring forward as much of the recent work as possible, short communications are also presented in this volume.

Associated with the symposia is the Feodor Lynen Lecture, named in honor of the Department of Biochemistry's distinguished visiting professor. Past speakers have been George Wald, Arthur Kornberg, Harland G. Wood, Earl W. Sutherland, Jr., Luis F. Leloir, Gerald M. Edelman, A.H.T.

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Theorell, Paul Berg, and James D. Watson. This year the Lynen lecture was given by Francis H.C. Crick. These lectures have provided insights into the history of discovery, and have included the personal and scientific philosophies of our distinguished speakers. The Lynen lecturer for 1980 will be Fred Sanger, and the symposium will deal with the mobilization and reassembly of genetic information.

Our arrangement with the publishers is to achieve rapid publication of the symposium proceedings, and we thank the speakers for their prompt submission of manuscripts. Our thanks also go to the participants whose interest and discussions provided the interactions that bring a symposium to life and to the many local helpers, faculty, and administrative staff who have contributed to the success of the present symposium. Special gratitude should be accorded to the organizers and coordinators of the program: W. J. Whelan (joint director with J. Schultz), Sandra Black, and Olga Lopez, and to Virginia Salisbury who did the major job of assembling the typescripts for the Papanicolaou Cancer Research Institute.

The financial assistance of several Departments of the University of Miami School of Medicine, namely, Oncology, Ophthalmology, Pathology, and Pediatrics, as well as of Dr. Emanuel M. Papper, Vice President for Medical Affairs and Dean of the University of Miami School of Medicine, the Dermatology Foundation of Miami, the Graduate School of the University of Miami, the Howard Hughes Medical Institute, Abbott Laboratories, Eli Lilly and Company, Hoffmann-La Roche, Inc., North American Biologicals, and Smith Kline & French Laboratories is gratefully acknowledged.

Keith Brew Harvey Faber Thomas R. Russell Julius Schultz

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