Media Advisory, Molecular Biology Symposium to be held

April 16, 1987

MEDIA ADVISORY

EVENT: MOLECULAR BIOLOGY SYMPOSIUM AT UNIVERSITY OF CALIFORNIA, SAN DIEGO

DATE: Thursday, May 7 and Friday, May 8

TIME: 9 a.m. to noon & 2 p.m. to 5 p.m., Thursday 9 a.m. to noon, Friday

LOCATION: Liebow Auditorium in the Basic Science Building at the UCSD School of Medicine.

REMARKS: In celebration of the opening of its new research facility, the UCSD Center for Molecular Genetics is holding a major symposium on recent advances in molecular biology. The conference will feature nine noted scientists, including Nobel Laureate Joseph Goldstein, a pioneer in the study of the genetic control of blood cholesterol levels and in the development of genetic techniques for predicting a tendency to high blood cholesterol levels. Each of the talks will deal with a research topic on the cutting edge of molecular genetics and bioengineering. A list of the speakers, their topics, and their research and a flier containing the symposium schedule are enclosed.

NOTES: *Please contact the Public Information Office in advance of the symposium if you are interested in interviewing one of the speakers. We will be happy to make the arrangements. *Press kits will be available at the entrance to Liebow Auditorium throughout the symposium. *The Center will conduct special tours for the media during the symposium. Additional information on tours and parking will be forthcoming.

Media Contact: Susan Pollock, 534-3120

UCSD MOLECULAR BIOLOGY SYMPOSIUM, May 7-8, 1987

Speakers:

DR. DAVID BOTSTEIN, Department of Biology, Massachusetts Institute of Technology: "Using Restriction Fragment Length Polymorphisms (RFLP) to Study Complex Inherited Disease."

Botstein is on the forefront of identifying and mapping genetic defects associated with specific inherited diseases. Using basic molecular genetic techniques to map genes on a chromosome, Botstein is laying the groundwork for genetic fingerprinting, a method to determine whether an individual is a carrier of a genetic defect. Certain applications of genetic fingerprinting are controversial. The technique can be used to discover whether potential employees are susceptible to certain compounds used in the workplace or have genes for certain debilitating diseases. Further, genetic fingerprinting gives law enforcers the ability to identify individuals by their genetic makeup.

DR. ALDRED GILMAN, Department of Pharmacology, University of Texas Health Science Center, Dallas: "G Proteins and Transmembrane Signaling."

Gilman's work is directed toward identifying the parts and workings of a cell that enable it to respond to hormonal and other stimuli in regulating its metabolism. G proteins are essential in transferring an external signal into a response by the cell. They may interact, for example, with insulin in commanding a cell to use sugar. Gilman hopes to identify the role of G proteins in this complex cellular communication process. He believes that understanding this signal system may also provide answers as to why certain cells become tumorous and lead, ultimately, to the prevention of abnormal responses.

DR. JOSEPH GOLDSTEIN, Nobel Laureate, Department of Molecular Genetics, University of Texas Health Science Center, Dallas: "A Receptor-Mediated Pathway for Cholesterol Homeostasis."

Goldstein won the Nobel Prize in Medicine in 1985 for his trail-blazing work in blood cholesterol, one of the chief determinants in heart disease. Having isolated the gene that regulates cholesterol levels in humans, Goldstein discovered that low density lipoproteins (LDL) play a positive role in maintaining cholesterol levels. His success in identifying the mechanism that regulates cholesterol levels in the blood has provided a genetic basis for predicting whether an individual is predisposed to high cholesterol and consequently at risk for heart disease.

DR. DAVID HOGNESS, Department of Biochemistry, Stanford University School of Medicine: "Molecular Genetics of Genes that Control Development in Drosophila."

Hogness has identified key genes which control the development of the fruitfly and other higher organisms. His work addresses a compelling question in biology: how are complex genetic programs coordinated in the development of an individual? In other words, how do the body's many complex parts come together during development to form a whole organism?

DR. BRIAN MATTHEWS, Institute of Molecular Biology, University of Oregon: "Structural and Genetic Approaches to the Protein Stability Problem."

Matthews is using the tools of molecular genetics to unravel the three-dimensional structure of proteins. Understanding the structure of a protein is essential to fathoming the regulation of gene expression and the functioning of metabolic machinery in a cell. This basic research is a key to how living organisms carry out life processes.

DR. MARK PTASHNE, Department of Biochemistry, Harvard University: "Protein-DNA Interaction and Gene Regulation in Bacteria and Yeast."

Ptashne's research has provided a structural basis for the control of gene expression by a specific protein molecule. He discovered that bacteria and higher organisms use similar mechanisms in the control of gene expression.

DR. ORA ROSEN, Memorial Sloan Kettering Cancer Center: "The Role of Protein Kinases in Insulin Action."

Rosen's description of how insulin maintains blood sugar levels has important implications for treating diabetes. She has charted the receptor in human cells that is involved in insulin regulation of sugar intake.

DR. GERALD RUBIN, Department of Biochemistry, University of California, Berkeley: "The Development of the Drosophila Visual System."

Rubin uses the tools of genetics and molecular biology to dissect the development of the visual system, an extraordinary system for studying the molecular basis of nerve cell activity and eye development. The eye serves as a model system for unraveling the molecular basis of other neurobiological processes, including memory, decision-making, and reasoning.

DR. PHILLIP SHARP, Center for Cancer Research, Massachusetts Institute of Technology: "Splicing of Messenger RNA Precursors."

Sharp examines molecular events in a cell that are responsible for "read-out" of the genetic information. In higher organisms, the protein-encoding portions of many genes are split into multiple parts. This seminal work describes how the messenger RNA of such genes is "spliced" together to form an intact and functional unit capable of instructing protein synthesis.

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