

plant growth and development. Their manipulation and transfer to crop species will deepen our understanding of their mechanism of action and will ultimately lead to improved plant varieties.

In summary, the book gives an excellent state of the art of the "plant gene transfer" field as it has developed in 1988. This precisely points to the problem I have with such publications. Most, if not all of the data presented has in the mean time appeared in the regular literature in more detailed form. As a result, the book in its present form is obsolete especially since recently a vast number of interesting regulatory genes have been isolated. In my opinion, books of this kind should be published before or at the scientific meeting itself in order to be useful to the scientific community. J. N. M. Mol, Amsterdam

Melton, Douglas A. (ed.): Current Communications in Molecular Biology. Antisense RNA and DNA. New York: Cold Spring Harbor Laboratory 1988. 149 pp. Soft bound.

Antisense RNA is known to exist naturally in some biological systems, where it acts to regulate gene expression through hybridization for example to a mRNA and thereby prevent its translation. This book *Antisense RNA and DNA* is a result of a Cold Spring Harbor Discussion Meeting at the Banbury Center, on this subject and the possible uses of antisense nucleic acids to regulate gene expression in a wide range of cells.

The natural examples dealt with in this book include control of transposition and phage gene expression in the bacterial systems. Research in this area has revealed a detailed understand-

ing of which RNA transcripts bring about antisense regulation, and the relative amounts needed for gene blocking. Approaches have been made as to the type and mechanism of hybridization involved; it has been revealed that at least some antisense RNA molecules are capable of intramolecular base pairing and form hairpin-like structures with at least one loop. The hairpin may be necessary to protect against single-stranded RNases, while host factors may be required for pairing etc.

Eukaryotic systems have been tried in attempts to block harmful, e.g. viral, expression, using antisense techniques. Chapters in this book deal in this way with such eukaryotic systems as tissue culture cells, trypanosomes, slime molds, fruit flies, frogs and mice. So far, few general conclusions can be drawn. However, it is clear that we need to consider closely how the antisense RNA is to be delivered, amongst many other problems. And given the lack of information on mechanisms of gene expression blockage and the differences in cell type and genes involved, it is difficult to pinpoint reasons as to why the technique does not always work. There are also several reports of the use of antisense DNA (actually short oligodeoxynucleotides) some apparently successful. In vitro studies suggest that when translation is blocked by a DNA oligonucleotide, this is achieved by an RNase-H-mediated cleavage of the M-RNA. This book draws attention to the new technique which could become a standard method for studying gene formation. With it could come a better understanding of gene function and the development and prevention of harmful and/or undesirable gene activities in disease states. J.F. Jackson, Glen Osmond

Announcements

International Symposium on Angiosperm Pollen and Ovules; Basic and Applied Aspects. Villa Olmo, Como (Italy), 23–27 June, 1991

Topics include:

- Genetics of Male and Female Gametophyte
- Molecular Biology of the gametophyte
- Biotechnical methods
- Developmental selection in natural populations
- Gametophytic selection as a breeding tool

Information and application forms:

D. L. Mulcahy
Department of Botany
University of Massachusetts
Amherst 01003, U.S.A.
Phone: 413/545 22 38
Fax: 413/545 32 43

E. Ottaviano
Department of Genetics and Microbiology
University of Milan
Via Celoria 26, 20133 Milano, Italy
Phone: 2/266 05-1
Fax: 2/66 45 51