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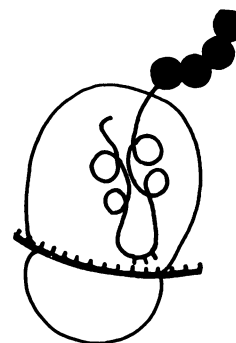
# GENE EXPRESSION

## — Regulation at the RNA and Protein Levels

Edited by J. Kay, F.J. Ballard and R.J. Mayer

204 pp. ISBN 0 904498 24 7 Price £35 (US \$65) BIOCHEMICAL SOCIETY SYMPOSIUM NO. 55

List of contents and authors: *Gene Expression and Differentiation in F9 Mouse Embryonal Carcinoma* by **Merilyn J. Sleigh**; *Regulation of Genes Associated with Drug Metabolism* by **William H. Elliott, Brian K. May, Michael J. Bawden & Antony J. Hansen**; *Cloning and Expression of the Genes for Calpains and Calpastatins* by **Takashi Murachi, Emiko Takano, Masatoshi Maki, Yoshifumi Adachi & Masakazu Hatanaka**; *Peptide Signals for Protein Degradation within Lysosomes* by **J. Fred Dice & Hui-Ling Chiang**; *Haemopoietic Growth Factor Control of Normal and Neoplastic Cellular Proliferation* by **Antony W. Burgess, Jonathan Cebon & Sandra Smith**; *Nuclear Pre-mRNA Splicing in *Saccharomyces cerevisiae** by **Jean Beggs, Marie Lossky & Gordon J. Anderson**; *Control of mRNA Stability During Development of *Dictyostelium discoideum** by **Giorgio Mangiarotti**; *Effects of Insulin-Like Growth Factors on Protein Metabolism: Why are some Molecular Variants more Potent?* by **F. John Ballard, Geoffrey L. Francis, Christopher J. Bagley, Laszlo Szabo & J. C. Wallace**; *Hormonal Regulation of Gene Expression* by **John W. Funder**; *Mechanisms by which Prolactin and Glucocorticoids Regulate Casein Gene Expression* by **Jeffrey M. Rosen, Patrick Poyet, Heather Goodman & Kuo-Fen Lee**; *Processing of the Polymeric Immunoglobulin Receptor* by **Roberto Solari, Esther Schaerer, Corinne Tallichet, Liliane Racine & Jean-Pierre Kraehenbuhl**; *Experimental Characterization of the Autophagic - Lysosomal Pathway in Isolated Rat Hepatocytes* by **Paul B. Gordon, Gunn Ø. Kisen, Attila L. Kovacs & Per O. Seglen**; *The Molecular Chaperone Concept* by **R. John Ellis, Saskia M. Van Der Vies & Sean M. Hemmingsen**; *Protein Folding and Intracellular Transport: Studies on Influenza Virus Haemagglutinin* by **Mary-Jane Gething & Joe Sambrook**; *Role of Protein Disulphide-Isomerase in the Expression of Native Proteins* by **Robert B. Freedman, Neil J. Bulleid, Hilary C. Hawkins & Jan. L. Paver**; *Intermediate Filament-Ubiquitin Diseases: Implications for Cell Sanitization* by **R. John Mayer, James Lowe, Graham Lennox, Michael Landon, Ken MacLennan & Fergus J. Doherty**; Subject index.



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# PLANT MEMBRANES – STRUCTURE, ASSEMBLY AND FUNCTION

Edited by **J.L. HARWOOD** and **T.J. WALTON**

This book records the proceedings of a meeting organized by the Phytochemical Society of Europe, the Membrane Group of the Biochemical Society and the Plant Metabolism Group of the Society for Experimental Biology and held at University College Cardiff in April 1988. Topics covered include membrane structure and its modification by different factors, synthesis of components and membrane assembly, molecular function of membrane components and physiological aspects of membranes.

Contents: *Recent structural studies on biomembranes* by **P.I. Harris & D. Chapman**; *Identification and isolation of photosystem I and photosystem II pigment-proteins from higher plants* by **G.F. Peter, O. Machold & J.P. Thornber**; *Structure, function and biogenesis of nuclear-encoded proteins of photosystem II* by **B. Andersson & R.G. Herrmann**; *Lipid topology and the role of lipids in plant membrane structure* by **W.P. Williams**; *Use of yeast lipid-synthesis mutants in establishing membrane function* by **K.D. Atkinson**; *Surface electrical charges and their role in membrane function* by **J. Barber**; *Catabolic regulation of thylakoid membrane structure and function during senescence* by **H. Thomas**; *Heat stress and membranes* by **K.A. Santarius & E. Weis**; *Glycerolipid synthesis* by **J.L. Harwood**; *Processing peptidases of higher plant chloroplasts* by **P.D. Elderfield, J.E. Musgrove, P.M. Kirwin & C. Robinson**; *The synergistic effect of light and heat stress on the inactivation of photosystem II* by **G. Schuster, S. Schochat, N. Adir, D. Even, D. Ish-Shalom, B. Grimm, K. Kloppstech & I. Ohad**; *The molecular genetics of thylakoid proteins* by **T.A. Dyer**; *Properties of the photosystem II quinone binding region* by **M.C.W. Evans, J.H.A. Nugent, J.A.M. Hubbard, C. Demetriou, C.J. Lockett & A.R. Corrie**; *A veteran's look at the chloroplast  $H^+$ -ATPase and photosystem I reaction center* by **N. Nelson**; *Lipid-protein interactions and membrane function* by **K. Gounaris, D.J. Chapman & J. Barber**; *Plasma membrane  $H^+$ -ATPase* by **R.T. Leonard**; *Intracellular cannibalism in higher plant cells* by **R. Douce, R. Bligny, A. J. Dorne & C. Roby**; *Herbicide action on photosynthetic membranes* by **A. Trebst**; *Effects of water stress on photosynthesis and related processes* by **M. Speer, J.E. Schmidt & W.M. Kaiser**; *Chilling sensitivity and phosphatidylglycerol biosynthesis* by **N. Murata, O. Ishizaki & I. Nishida**; *Calcium, protein kinase and the plasma membrane* by **S. Gilroy, D. Blowers, M. Collinge, H. Harvey & A.J. Trewavas**; *Transport across membranes* by **J.A. Raven**.

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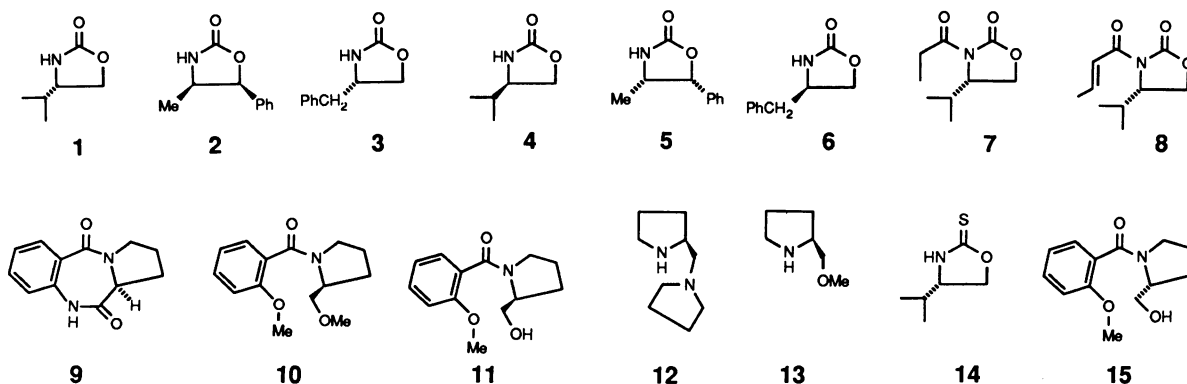
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# Chiral Auxiliaries

## from $\alpha$ -Amino Acids and $\beta$ -Amino Alcohols

$\alpha$ -Amino acids are excellent starting points for asymmetric syntheses since they are low-cost, commercially available substances of high optical purity containing readily elaborated functionality. Consequently, practitioners of asymmetric synthesis have exploited the parent acids, related chiral  $\beta$ -amino alcohols and chiral auxiliaries derived from both of these for the syntheses of a wide variety of natural (and "unnatural") products such as polyether antibiotics,<sup>1</sup> macrolides,<sup>2</sup>  $\beta$ -lactams,<sup>3</sup> peptides,<sup>4</sup> pheromones,<sup>5</sup> alkaloids,<sup>6</sup> and terpenes.<sup>7</sup> Aldrich offers many natural (as well as unnatural) amino acids, chiral  $\beta$ -amino alcohols and, most importantly, several derived chiral auxiliaries. The following paragraphs highlight recent applications of some of these versatile chemist's companions.



While compounds 1-8 have found numerous applications since Evans' initial reports,<sup>8,9</sup> among the recent applications are: the investigation of the asymmetric Diels-Alder reaction using crotonamides of 1 (*i.e.*, 8), 2 and 3,<sup>10</sup> renin-inhibiting peptide synthesis utilizing 4,<sup>2b</sup> and the total synthesis of Eschinocandin-D in which 6 was effectively applied as a chiral director.<sup>11</sup>

The proline-derived auxiliaries 9-11 have been utilized in an enantioselective Birch-reduction/alkylation process which affords chiral cyclohexane derivatives.<sup>12</sup> Schultz *et al.* have utilized 9 in the total synthesis of (+)-Pumiliotoxin-C.<sup>13</sup> This chemistry has been applied to a number of other total syntheses as well.<sup>14</sup>

The interesting prolinol-derived reagents 12 and 13 have been utilized in pheromone synthesis,<sup>5</sup> the total synthesis of indolmycin,<sup>15</sup> and in an asymmetric photo Diels-Alder reaction.<sup>16</sup>

The auxiliaries 14 and 15 promise to be useful new additions to the existing collection.

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