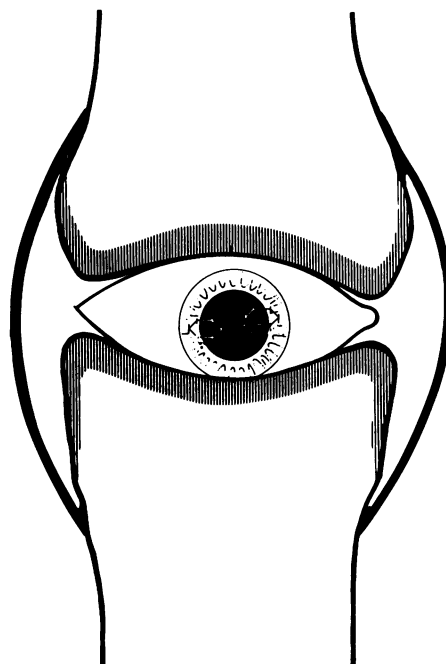


KERATAN SULPHATE

Chemistry, Biology,
Chemical Pathology

Edited by

HELMUT GREILING
&
JOHN E. SCOTT



Keratan sulphate is unique, standing at a crossroads, sharing the potential of both typical glycoproteins and typical proteoglycans. In one direction lie immunology, cell development and oncogenesis; in the other, important roles in the ultrastructure and function of cornea, joints and intervertebral discs. This book, the first in the field, is the fruit of the first full international symposium on keratan sulphate. The challenge of new viewpoints produced controversy, but also much common ground; this is revealed by the edited discussions, grouped for continuity, which follow the main sections. The bibliography is collected into one section, providing much of the literature on keratan sulphate in one place.

Contents: **PART I - CHEMISTRY:** Structure of keratan sulphate proteoglycans: core proteins, linkage regions, carbohydrate chains (*Stuhlsatz, Keller, Becker, Oeben, Lennarts, Fisher & Greiling*); Structural and conformational analysis of keratan sulphate oligosaccharides and related carbohydrate structures (*Hounsell*); Discussion. **PART II - IMMUNOLOGY:** Keratan sulphate oligosaccharides, members of a family of antigens of the poly-N-acetyl-lactosamine series (*Feizi*); Studies of keratan sulphates of aorta and cartilage utilizing MAb 6D2 (*Baker*); Detection and purification of corneal keratan sulphate proteoglycan from non-corneal tissues (*Funderburgh & Conrad*); Discussion. **PART III - BIOSYNTHESIS:** Biosynthesis of skeletal and corneal keratan sulphate (*Balduini, De Luca & Castellani*); Keratan sulphate proteoglycans: chemistry and biosynthesis of the linkage regions (*Hascall & Kimura*); Discussion. **PART IV - REGULATION OF BIOSYNTHESIS:** Factors affecting the pathway for the biosynthesis of keratan sulphate (*Mason & Sweeney*); Sulphation, chain elongation and chain termination in keratan sulphate biosynthesis (*Keller, Stuhlsatz & Greiling*); Keratan sulphate: a functional substitute for chondroitin sulphate in O₂-deficient tissues? (*Scott, Stockwell, Balduini & De Luca*); Discussion. **PART V - DEGRADATION:** Substrate specificity of keratan sulphate-degrading enzymes (endo- β -galactosidase, keratanase and keratanase II) from micro-organisms (*Nakazawa, Ito, Yamagata & Suzuki*); Degradation of keratan sulphate proteoglycans (*Kresse*); Discussion. **PART VI - KERATAN SULPHATE IN THE TISSUES:** The chemical morphology of keratan sulphate proteoglycans (*Scott*); Articular cartilage keratan sulphate: maturation, ageing, biomechanical and scale effects (*Stockwell*); Proteoglycans of mammalian corneal stroma (*Damle & Gregory*); Discussion; Developmental aspects of keratan sulphate (*Cintron, Covington, Kublin, Gregory & Damle*); Keratan sulphate proteoglycans in organ and cell culture (*Dahl*); Discussion. **PART VII - CHEMICAL PATHOLOGY:** Studies of the metabolism of keratan-sulphate-bearing proteoglycans of cartilage (*Thonar, Williams, Sweet, Maldonado, Lenz, Schnitzer & Kuettner*); Serum keratan sulphate in rheumatoid arthritis and different clinical subsets of osteoarthritis (*Seibel, Towbin, Braun, Kiefer, Müller & Paulsson*); Factors affecting the determination of keratan sulphate using monoclonal antibodies in immunoassay procedures (*Caterson, Brooks, Sattangi, Ratcliffe, Hardingham & Muir*); Discussion; Alterations in the synthesis of keratan sulphate proteoglycan in corneal wound healing and in macular corneal dystrophy (*Hassell, SundarRaj, Cintron, Midura & Hascall*); Distribution of keratan sulphate-containing proteoglycans in human aorta and their possible role in the calcification of aorta (*Greiling, Löffler & Stuhlsatz*); Discussion. *Bibliography. Index.*

ISBN 0 904498 25 5

Price £25.00/US\$ 48.00

262 pages (casebound with jacket)



Portland Press Ltd.

P.O. Box 32, Commerce Way, Colchester CO2 8HP, U.K.

Telephone 0206 46351 Facsimile 0206 549331

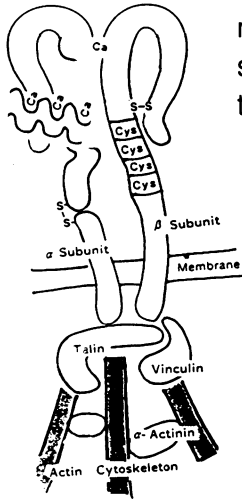
26 Essays in 26 BIOCHEMISTRY 26 Volume 26

Edited by **K. F. Tipton**

ISBN 1 85578 007 0 PRICE : £12.50/US\$25.00

Essays in Biochemistry is one of the most popular series of books created by the Biochemical Society. First started in 1965, and until recently published by Academic Press, the Society has now entrusted its publication to Portland Press. The series has undergone extensive revision to restore its relevance for its primary audience - advanced undergraduates, graduate students and their teachers.

Essays in Biochemistry will be published annually at the start of each academic year. Each volume will cover exciting and rapidly developing areas of biochemistry and molecular and cellular biology of particular interest to students and their teachers. Carefully selected bibliographies provide a lead in to the primary literature, helping readers pursue topics in greater depth.



Contents

- The biochemistry of memory **Steven P. R. Rose**
- Tubulin and microtubules **Edward H. Byard and Bodo M.H. Lange**
- Plant signal perception and transduction: the role of the phosphoinositide system **Bjørn K. Drøbak**
- Artificial cell adhesive proteins **Kiyotoshi Sekiguchi, Toshinaga Maeda and Koiti Titani**
- The urea cycle: a two compartment system **Malcolm Watford**
- Antibody engineering: an overview **Richard O'Kennedy and Paul Roben**
- Ecstasy: towards an understanding of the biochemical basis of the actions of MDMA **Marcus Rattray**
- Structure and function of ribonuclease A binding subsites **Xavier Parés, M. Victòria Nogués, Rafael de Llorens and Claudi M. Cuchillo**
- Metabolic studies using ¹³C nuclear magnetic resonance spectroscopy
Ronnitte Badar-Goffer and Herman Bachelard



Order form

Please send me ___ copies of **Essays in Biochemistry**
(£12.50/US\$25.00)

Name: _____

Address: _____

_____ Postcode _____

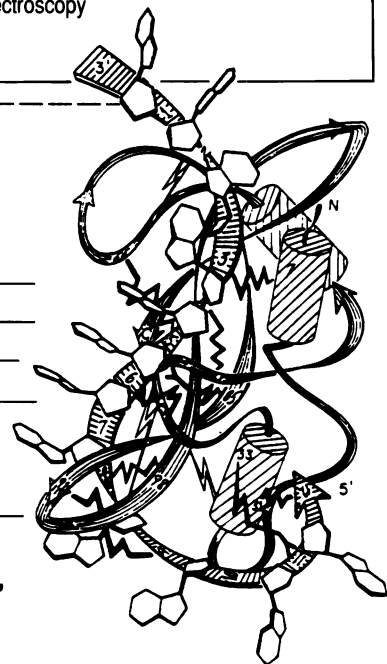
Credit card number:

Expiry date: _____ Signature: _____

Payment can be made by cheque or credit card.

Send this order form to: **Portland Press Ltd, Commerce Way,
Colchester CO2 8HP England**

Or order by fax: 0206 549331 (+44 206 549331)



Two review compendia from Portland Press

Biochemical Journal Reviews Compendium 1991

This invaluable compendium contains the review articles published in the **Biochemical Journal** in 1991. The reviews cover a wide range of modern biochemistry and molecular biology and provide the opportunity for research workers to gain an overview of areas outside their own particular speciality.

The compilation is also an important source of teaching material. The use of colour in diagrams allows the particularly clear presentation of complex topics, and enhances this book's value as a teaching aid.

The reviews fall into five sections covering:

- * Gene structure and expression
- * Cell biology and development
- * Proteins
- * Membranes and bioenergetics
- * Regulation of metabolism

Areas reviewed include: pulmonary surfactant proteins, adenovirus oncoproteins, protein-DNA recognition, transcription factors, regulation of gene expression by insulin, glycosylation mutants and protein transport, dioxin toxicity, interaction of ribosomes and the cytoskeleton, muscle contraction, blood coagulation and the complement system, caldesmon, ras proteins, magnetic resonance of membranes, regulation of muscle protein turnover and control of heart ATP synthesis.

"It provides a valuable teaching aid at a reasonable cost over quite a wide range of biochemistry and molecular biology."

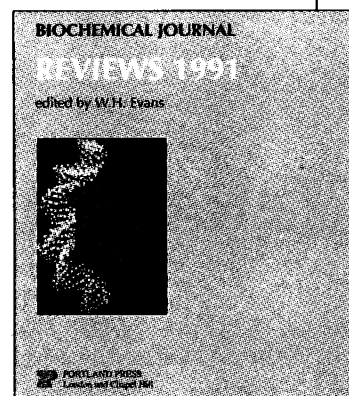
Biochemical Education

Casebound

ISBN 1 85578 020 8,

240 pages

price £12.50/US\$25.00



Journal of Biological Chemistry Minireview Compendium 1991

The **Journal of Biological Chemistry** is one of the world's leading journals of biological chemistry; it publishes over 1000 research articles each year. It also publishes review articles on selected topics of scientific importance. This is the compendium of reviews published during 1991. The 36 reviews published in 1991 covered a wide range of topics and will supply invaluable material for lecturers and students.

Topics reviewed include: protein structure of actin, HNF-1, cytoplasmic transcription system encoded by vaccinia virus, metal-catalyzed oxidation of proteins, the interleukin-2 receptor, antigenic structures recognized by cytotoxic T lymphocytes, the cholinesterases, lipid activation of protein kinase C, homologous pairing and strand exchange driven by RecA protein, phosphorylation of ribosomal protein S6, DNA topoisomerases, tumor necrosis factor, three proteolytic systems in yeast, protein N-myristoylation, nitrogenases, cytochrome P-450, visual excitation and recovery, calmodulin fluorescence spectroscopy, caldesmon, adhesive recognition sequences,

protein phosphorylation, SPARC, tenascin and thrombospondin, selenocysteine-containing enzymes, aminoacyl-tRNA synthetases, DNA polymerase III holoenzyme, molecular genetics of Alzheimer disease amyloid, lysosomal membrane glycoproteins, conotoxins, and CD 45.

Paperback

ISBN 0 9621688 03 1,

152 pages,

£6.00/US\$10.00

Orders to: Portland Press Ltd, Commerce Way, Whitehall Industrial Estate, Colchester CO2 8HP, UK

Tel: 0206 46351, Fax 0206 549331

Portland Press Inc, PO Box 2191, Chapel Hill, NC 27515-2191 USA Tel. 919 227 0455, Fax 919 227 1566

