

---

# Contents

Volume 5, Part 2, 1977

---

## THE EIGHTH JUBILEE LECTURE

Multiple stages in the enzymic replication of DNA. *By* A. Kornberg PAGE  
359

## THE ELEVENTH CIBA MEDAL LECTURE

Spermatozoa, eggs and proteinases. *By* E. F. Hartree 375

## 567TH MEETING, DURHAM

### Colloquium: Secretional Aspects of Glycoconjugates

Metabolism of proteoglycans and glycosaminoglycans in cultivated fibroblasts.  
*By* E. Buddecke 395

Macromolecular interactions and connective-tissue metabolism. *By* H. Muir 397

Concepts of metabolic pools in the metabolism of proteoglycans and hyaluronic acid. *By* J. T. Gallagher 402

Cellular mechanisms of secretion of glycoproteins by epithelial cells. *By* M. F. Kramer & J. J. Geuze 410

Neurophysiological control of glycoprotein secretion in the tracheal epithelium.  
*By* P. W. Kent & J. G. Widdicombe 414

The regulation of mucin production in the feline submaxillary gland. *By* C. F. Phelps & A. M. Young 417

### Communications

Nutritional shifts and their effect on the secretion of extracellular proteins by *Staphylococcus aureus* (Wood 46). *By* B. Abbas-Ali & G. Coleman 420

Partial purification of two lithocholic acid-binding proteins from rat liver 100000g supernatants. *By* R. C. Strange, R. Cramb & I. W. Percy-Robb 422

The effect of elimination of the gastrointestinal flora on the accumulation of methylmercuric chloride by the rat. *By* I. R. Rowland, M. J. Davies & P. Grasso 423

Copper- and zinc-binding protein fractions in the soluble cytoplasm of rat tissues. *By* D. S. Norton & F. W. Heaton 425

A possible role for adenosine 3':5'-cyclic monophosphate in nerve-mediated vasodilatation. *By* C. J. Jones & G. E. Mann 428

Biosynthesis of a structural glycoprotein component of elastic tissues by cultured human skin fibroblasts. *By* C. H. J. Sear, M. A. Kewley, M. E. Grant, F. S. Steven & D. S. Jackson 430

Vol. 5

	PAGE
Connective-tissue glycoconjugates of bovine tendon and skin. <i>By</i> J. C. Anderson, R. I. Labeledz & P. E. Brenchley	431
Extractability of connective-tissue glycoprotein from bovine tendon. <i>By</i> J. C. Anderson & R. I. Labeledz	434
The isolation of a high-molecular-weight glycoprotein from pig colonic mucus. <i>By</i> T. Marshall & A. Allen	436
Simultaneous incorporation of <i>N</i> -acetylglucosamine and <i>N</i> -fluoroacetylglucosamine into hyaluronic acid by mammalian cells. <i>By</i> P. W. Kent & D. J. Winterbourne	439
Lipid intermediates involved in the transfer of <i>N</i> -acetylglucosamine to proteins in baker's yeast ( <i>Saccharomyces cerevisiae</i> ). <i>By</i> F. Reuvers, C. Habets-Willems, A. Reinking & P. Boer	440
The metabolic fate of <i>N</i> -acetyl-D-[1- <sup>14</sup> C]galactosamine in isolated perfused rat liver. <i>By</i> A. D. MacNicoll, F. S. Wusteman, G. M. Powell & C. G. Curtis	442
The degradation of proteoglycan by leucocyte elastase. <i>By</i> P. J. Roughley	443
 <b>EARLY-EMBRYO COLLOQUIUM, COMPTON</b>	
<b>Colloquium: The Early Embryo</b>	
Field evidence of embryonic loss. <i>By</i> R. W. Saunders	447
The uterine environment. <i>By</i> P. J. Heald	448
Endocrinology and biochemistry of uteroglobin and other proteins involved in blastocyst development. <i>By</i> H. M. Beier	450
Uterine secretions in the cow and sheep. <i>By</i> R. A. Gibbons, S. N. Dixon & G. P. Roberts	452
Physiological factors and the early embryo. <i>By</i> R. Newcomb	455
Endocrine activities and protein synthesis in the early blastocyst. <i>By</i> R. B. Heap, J. S. Perry, J. E. Gadsby, R. D. Burton & C. Wyatt	457
 <b>2ND NATIONAL CONGRESS, ITALY</b>	
<b>Colloquium: Synthesis and Degradation of Ribonucleic Acid</b>	
Structure and interactions of <i>Escherichia coli</i> ribosomal ribonucleic acid ( <i>by title only</i> ). <i>By</i> J.-P. Ebel	459
The stability of nascent ribosomal ribonucleic acid in growing <i>Escherichia coli</i> . <i>By</i> J. Ramsay & K. Burton	459
Synthesis and processing of ribosomal ribonucleic acid in eukaryotes. <i>By</i> R. J. Planta, J. Retèl, J. Klootwijk, J. H. Meyerink, P. de Jonge, H. van Keulen & R. C. Brand	462
Structure and properties of seminal ribonuclease. <i>By</i> E. Leone & G. D'Alessio	466
Basic charges on ribonuclease molecules and activity towards double-stranded polyribonucleotides. <i>By</i> M. Libonati & J. J. Beintema	470
	1977

	PAGE
<b>Colloquium: Aspects of Gene Expression in Eukaryotes</b>	
Organization of a eukaryotic genome ( <i>by title only</i> ). <i>By</i> G. Bernardi	474
Messenger ribonucleic acid metabolism during myogenesis. <i>By</i> M. E. Buckingham, R. G. Whalen, F. Gros & S. Goto	474
Human globin-gene expression in controls and thalassaemic patients. <i>By</i> R. Williamson	478
<b>Colloquium: Energy Coupling in Organelles and Bacteria</b>	
Microbes and mitochondria. <i>By</i> P. B. Garland & B. A. Haddock	479
Proton movements in energy-conserving membranes. <i>By</i> K. van Dam, A. H. C. A. Weichmann & K. J. Hellingwerf	485
Proton pump and membrane potential in liver mitochondria. <i>By</i> G. F. Azzone, T. Pozzan & M. Bragadin	487
Proton pumps in bacterial photosynthesis. <i>By</i> A. R. Crofts, D. Crowther, H. Celis, S. Almanza de Celis & G. Tierney	491
Bacterial photosynthetic phosphorylation under conditions of limited electron flow. <i>By</i> B. A. Melandri, R. Casadio & A. Baccarini Melandri	495
Some electrophysiological aspects of energy coupling and ion transport in intact chloroplasts. <i>By</i> W. J. Vredenberg	499
Phosphate transport in yeast mitochondria: Is the phosphate carrier a part of the oligomycin-sensitive adenosine triphosphatase complex? <i>By</i> B. Guerin, M. Guerin, C. Napias & M. Rigoulet	503
<b>Colloquium: Biochemistry of Cell Membranes: Receptor Sites and Enzymes</b>	
Receptor sites on cell membranes. <i>By</i> E. J. Ariens & A.-M. Simonis	507
Purification and characterization of the cholinergic receptor protein in its membrane-bound and detergent-soluble forms from the electric organ of <i>Torpedo marmorata</i> . <i>By</i> A. Sobel & J.-P. Changeux	511
The metabolism of phosphatidylinositol in excitable membranes. <i>By</i> J. N. Hawthorne, M. R. Pickard & H. D. Griffin	514
The adenosine triphosphatase complex: Structure and function of a membrane-bound enzyme ( <i>by title only</i> ). <i>By</i> J. Rosing & K. van Dam	517
What is the phospholipid specificity of a reconstituted calcium pump? <i>By</i> G. B. Warren & J. C. Metcalfe	517
The role of prostaglandin E <sub>1</sub> as an intercellular regulator or modulator of adenylate cyclases. <i>By</i> V. Tomasi, A. Trevisani, C. Biondi, A. Capuzzo & V. Perri	520
Structure-function relationship of intestinal and renal brush-border membrane-bound aminopeptidases and maltases. <i>By</i> S. Maroux, D. Louvard, C. Vannier & M. Sémériva	523
The tricarboxylate carrier of the mitochondrial membrane: Solubilization and partial purification of citrate-binding protein from submitochondrial particles. <i>By</i> F. Palmieri, G. Gençhi, I. Stipani, P. Riccio & E. Quagliariello	527

	<b>PAGE</b>
<b>BOOK REVIEWS</b>	<b>533</b>
 <b>BIOCHEMICAL REVIEWS</b>	
Selected topics in gibberellin metabolism. <i>By</i> J. R. Bearder & V. M. Sponsel	569
Some contemporary problems in electron-transport-linked adenosine triphosphate synthesis and related processes. <i>By</i> S. J. Ferguson	582
Plasma-lipoprotein interrelationships. <i>By</i> B. Lewis	589