

BIOCHEMICAL SOCIETY TRANSACTIONS



London: The Biochemical Society © 1985

Managing Editor D. C. WATTS

Book Reviews Editor B. MORELAND

Contents Volume 13, Part 1, February 1985

609th MEETING, LEEDS

Colloquium: Monoclonal Antibodies: Their Application in Exploring Molecules and Cells

- | | | |
|--|---|----|
| What monoclonal antibodies see at cell surfaces | A. F. WILLIAMS & G. R. WOOLLETT | 1 |
| The LFA-1, Mac-1 leucocyte adhesion glycoprotein family and its deficiency in a heritable human disease | T. A. SPRINGER, L. SASTRE & D. C. ANDERSON | 3 |
| Molecular analysis of the human T-cell-antigen receptor | O. ACUTO, M. FABBI, S. F. SCHLOSSMAN & E. L. REINHERZ | 6 |
| Production of monoclonal antibodies in large-scale cell culture | J. R. BIRCH, P. W. THOMPSON & R. BORASTON | 10 |
| Studies with monoclonal antibodies prepared against X-31 influenza virus haemagglutinin | J. J. SKEHEL, E. BROWN, R. S. DANIELS, A. R. DOUGLAS, M. KNOSSOW, I. A. WILSON, N. G. WRIGLEY & D. C. WILEY | 12 |
| Use of monoclonal antibodies in exploring the structure of the acetylcholine receptor | J. LINDSTROM, S. HOCHSCHWENDER, K. WAN, M. RATNAM & M. CRIADO | 14 |
| Microinjection of monoclonal tubulin antibodies into living cells as an approach to evaluate the contribution of microtubules to cellular physiology | J. WEHLAND & K. WEBER | 16 |

Colloquium: Enzymes of Lipoprotein Metabolism

- | | | |
|---|---|----|
| Enzymology of lecithin: cholesterol acetyltransferase | G. ASSMANN & H.-U. JABS | 19 |
| Lecithin: cholesterol acyltransferase in the physiological system | J. S. OWEN, M. E. C. CHAVES & A. CHITRANUKROH | 20 |
| Enzymology and physiological role of hepatic lipase | H. JANSEN & W. C. HÜLSMANN | 24 |
| Lipoprotein lipase: molecular interactions of the enzyme | A. CRYER | 27 |
| Lipoprotein lipase in the physiological system | B. K. SPEAKE, S. M. PARKIN & D. S. ROBINSON | 29 |
| Genetics variants of the lipoproteins and hyperlipidaemia | D. J. GALTON, J. STOCKS & A. REES | 31 |

Colloquium: Membrane Peptidases of the Nervous System

- | | | |
|--|---------------|----|
| Function and distribution of peptides in the nervous system | L. L. IVERSEN | 35 |
| Regulation of processing in multi-functional prohormones: a new hypothesis | D. G. SMYTH | 38 |

Endopeptidase-24.11 and neuropeptide metabolism	A. J. TURNER, R. MATSAS & A. J. KENNY	39
Structure and functions of human angiotensin I converting enzyme (kininase II)	E. G. ERDÖS & R. A. SKIDGEL	42
The active site of endopeptidase-24.11: substrate and inhibitor studies	M. POZSGAY, C. MICHAUD & M. ORLOWSKI	44
Enkephalin metabolism and its inhibition	C. GROS, B. GIROS, C. LLORENS, B. MALFROY, H. POLLARD, I. PACHOT, J.-C. SCHWARTZ & J.-C. MAZIE	47
Metabolism of neuropeptides at brain and pituitary sites	J. A. EDWARDSON & J. R. MCDERMOTT	50
Neurotensin degradation by soluble and membrane-associated enzymes from the brain	P. C. EMSON, F. CHECLER, A. C. CAMARGO, K. PITTAWAY, B. WILLIAMS, P. KITABGI & J. P. VINCENT	53
Colloquium: Lipids in the Regulation of Hormone-Responsive Cells		
Lipoproteins and the regulation of steroidogenesis	E. R. SIMPSON, V. BOGGARAM, B. FUNKENSTEIN & M. R. WATERMAN	55
The role of inositol lipids in hormonal mobilization of cell-associated Ca ²⁺	A. H. DRUMMOND, R. J. KNOX & C. H. MACPHEE	58
Evidence for the involvement of lipoxygenase products in steroidogenesis	C. J. DIX, A. D. HABBERFIELD, M. H. F. SULLIVAN & B. A. COOKE	60
Phospholipid metabolism in the adrenal cortex	J. B. G. BELL, P. J. HYATT, J. F. TAIT, S. A. S. TAIT & G. ST. J. WHITLEY	64
Inositol lipids and cell proliferation	M. J. BERRIDGE, J. P. HESLOP, R. F. IRVINE & K. D. BROWN	67
Colloquium: Biochemical Disturbances of Fetal Development		
Biochemical disturbances of fetal development	K. SNELL	73
Valproic acid teratogenicity: demonstration that the biochemical mechanism differs from that of valproate hepatotoxicity	N. A. BROWN, P. B. FARMER & M. COAKLEY	75
Energy metabolism during mammalian embryogenesis	J. R. CLOUGH	77
Metabolically determined teratogenesis: malformations and maternal diabetes	U. J. ERIKSSON, V. E. DAHLSTRÖM & J. STYRUD	79
Embryonic protein nutrition and teratogenesis	J. B. LLOYD, S. J. FREEMAN & F. BECK	82
Disturbances of fetal liver carbohydrate metabolism and perinatal glucose homeostasis	J. M. CUEZVA & M. S. PATEL	83
Synthesis of surfactant lipids in developing rat lung: studies with isolated alveolar type-II cells	L. M. G. VAN GOLDE, M. POST, J. J. BATENBURG, A. C. J. DE VRIES & B. T. SMITH	86
Reprogramming of metabolism development by restriction of fetal growth	C. T. JONES	89
COMMUNICATIONS		93
BOOK REVIEWS		273

COMMUNICATIONS

Fluorescent location of guanidinobenzoates on cell surfaces by the competitive inhibitor 9-amino acridine	F. S. STEVEN, R. K. AL-AHMAD & M. M. GRIFFIN	93
Monoclonal antibodies for specific sequence regions in avian desmin	S. E. HARRIS, S. C. EL-SALEH, K. J. GOODRUM & P. JOHNSON	94
Monoclonal antibodies for the human insulin receptor	M. SOOS, M. D. BARON & K. SIDDLER	95
Monoclonal antibodies against human granulocyte differentiation antigens	N. C. MCCARTHY & M. A. KERR	96
Immunochemical characterization of lactase in subcellular fractions of human jejunal enterocytes	H. BOLTON, M.-W. HO, J. POTTER, T. KING, A. FURTH, B. GRIFFITHS, D. SWALLOW & S. POVEY	97
Preparation of monoclonal antibodies to lactase and other microvillar membrane proteins by immunizations <i>in vivo</i> and <i>in vitro</i>	J. POTTER, F. GREEN, D. SWALLOW, M.-W. HO, H. BOLTON & S. MURPHY	98
Monoclonal antibodies against creatine kinase isoenzymes	A. P. JACKSON, K. SIDDLER & R. J. THOMPSON	99
Immunological dissection of the <i>Drosophila</i> nucleus	H. SAUMWEBER, M. FRASCH, W. RISAU, R. DEQUIN & P. SYMMONS	100
Dissection of renal brush-border membranes with monoclonal antibodies	N. S. GEE & A. J. KENNY	101
Use of monoclonal and anti-La antibodies to study the concentration and distribution of La in normal and transformed cells	D. G. WILLIAMS, C. FOONG, P. R. SMITH, P. J. W. VENABLES & R. N. MAINI	102
Characterization of the Sm antigen by using monoclonal antibodies	D. G. WILLIAMS, P. R. SMITH & R. N. MAINI	103
Production of monoclonal antibodies to the La antigen	P. R. SMITH, D. G. WILLIAMS, P. J. W. VENABLES & R. N. MAINI	104
Monoclonal antibodies and the structure of complement component C9	J. P. LUZIO, P. JACKSON, A. K. CAMPBELL, B. P. MORGAN & K. K. STANLEY	105
Monoclonal antibodies against human alkaline phosphatases	E. M. BAILYES, K. SIDDLER & J. P. LUZIO	107
Effector sites of human immunoglobulin probed with monoclonal antibodies to Fc γ epitopes	R. JEFFERIS, M. WALKER, M. I. NIK JAAFAR, C. CZECH & K. WILLIAMS	108
Examination of glycoproteins on intact blood platelets by using monoclonal antibodies and the fluorescence-activated cell sorter	G. I. JOHNSTON & S. HEPTINSTALL	109
Conformational changes in phytochrome determined by using monoclonal antibodies	M. D. PARTIS & B. THOMAS	110
T-cell markers on the surface of chronic lymphocytic leukaemia lymphocytes	V. A. BROWN, S. K. SMITH & A. H. MADDY	111
Complement-mediated lysis of rat muscle cells in culture by sera from myasthenia gravis patients	L. A. CHILDS, R. HARRISON & G. G. LUNT	111
Comparison of ^{125}I - α -bungarotoxin binding characteristics of acetylcholine receptors from human adult and foetal skeletal muscle	R. HARRISON, H. S. LOTWICK, G. G. LUNT & G. TURNBULL	113
Displacement of ^{125}I - α -bungarotoxin from ^{125}I - α -bungarotoxin-labelled acetylcholine receptor complexes by anti-acetylcholine receptor antibodies in myasthenia gravis	H. S. LOTWICK, R. HARRISON & G. G. LUNT	114
Monoclonal antibodies from the MRL/lpr mouse	N. THI MAN & A. J. MACGILLIVRAY	115
Monoclonal antibodies to the human acetylcholine receptor	P. J. WHITING, A. VINCENT & J. NEWSOM-DAVIS	116
Monoclonal antibodies to the α -bungarotoxin-binding site on acetylcholine receptors from <i>Torpedo marmorata</i>	P. J. WHITING, A. VINCENT & J. NEWSOM-DAVIS	117
Effects of mitogenic monoclonal antibodies on T-lymphocyte metabolism	E. V. WALLS, C. R. BENZIE, A. F. BORGHETTI & J. E. KAY	118
Monoclonal antibodies to chicken fast-muscle troponin T	I. M. BIRD, G. K. DHOOT & J. M. WILKINSON	119
Human X-linked surface antigens	R. D. COX & F. S. WALSH	120
Monoclonal antibodies against human apoprotein E	R. W. JAMES, J.-M. DAYER & D. POMETTA	121
Tissue reactivity of monoclonal antibodies to human urothelial cell lines	J. B. MATTHEWS, J. SOUTHGATE, G. M. HODGES, G. M. LAWRENCE & L. K. TREJDOSIEWICZ	122
Reversible contact-mediated collapse of the cytoskeleton of cultured human hepatocarcinoma cells	L. K. TREJDOSIEWICZ, J. SOUTHGATE, G. M. HODGES, G. M. LAWRENCE & J. B. MATTHEWS	123
Interaction of myasthenic antibodies with the acetylcholine receptor from bovine muscle	K. P. WILLIAMS, R. HARRISON, G. G. LUNT & J. NICKLESS	124
Catalase as a manganese-dependent NADPH peroxidase	V. A. DEBARI, M. A. NEEDLE & A. BENNUN	125

Infrared spectroscopy of erythrocyte plasma membranes	A. BENNUN, M. A. NEEDLE & V. A. DEBARI	127
High-density lipoprotein inhibits the hydrolysis of Intra-lipid by human lipoprotein lipase	S. M. A. JONES & M. P. ROGERS	128
Free fatty acids: the possible regulators of muscle lipoprotein lipase	L. BUDOHOSKI, S. KOZŁOWSKI, H. KACIUBA-USCIELKO & K. NAZAR	129
Inhibition of adipocyte and whole-tissue lipoprotein lipase by rat high-density lipoprotein	S. M. A. JONES & M. P. ROGERS	130
Kinetics of lipoprotein lipase interaction with triacylglycerol-rich lipoproteins carrying excess apolipoprotein C-III ₂	G. HOLDSWORTH, J. G. NOEL, M. L. KASHYAP & R. L. JACKSON	131
Comparison of the apolipoprotein A1/A11 ratio of smokers' and non-smokers' high-density lipoproteins	G. HOLDSWORTH, T. R. OSBORNE, G. T. PATTERSON & N. W. REVIS	133
Increase with starvation in the pregnant rat of the liver lipoprotein lipase activity	X. TESTAR, M. LLOBERA & E. HERRERA	134
'A'-esterase activity in the lipoprotein fraction of sheep and human serum	M. I. MACKNESS, S. D. HALLAM & C. H. WALKER	135
Effect of rat plasma high-density lipoprotein subfraction on the synthesis of bile salts by rat hepatocyte monolayers	R. P. FORD, K. E. SUCKLING, K. M. BOTHAM & G. S. BOYD	136
The association of apolipoprotein-CII with lipoprotein lipase in the presence and absence of a triglyceride substrate	A. R. CLARKE, M. LUSCOMBE & J. J. HOLBROOK	137
Effects of lipase enzymes on procoagulant and anticoagulant activities of lipoproteins	E. GRAY, S. P. WILLIAMS & T. W. BARROWCLIFFE	138
Turnover of lipoprotein lipase in rat adipose tissue	S. M. PARKIN, B. K. SPEAKE & D. S. ROBINSON	139
Regulation of the synthesis of lipoprotein lipase in rat adipose tissue	D. K. SPEAKE, S. M. PARKIN & D. S. ROBINSON	140
Role of apoproteins B and E in the receptor-mediated uptake of very-low-density lipoprotein remnants by the perfused rat liver	B. S. SURI, M. E. TARG & D. S. ROBINSON	140
Regulation of lipoprotein lipase: starvation-induced changes in the intracellular and intercellular distribution of activity in mammary tissue of lactating rats	R. A. CLEGG	141
A role of erythrocytes in cholesterol transport to the liver and in formation of bile acids	M. E. LAKER & P. A. MAYES	142
A lecithin: cholesterol acyltransferase-like activity in the plasma of rainbow trout	D. BLACK, S. G. MACKIE & E. R. SKINNER	143
Hypolipoproteinaemic effects of ciprofibrate	P. KHOSLA, M. P. ROGERS & V. J. CUNNINGHAM	144
Purification of lecithin-cholesterol acyltransferase from human plasma	M. E. C. CHAVES, D. S. HARRY, J. S. OWEN & N. MCINTYRE	145
Compartmentation of lipoprotein lipid synthesis and assembly in rat hepatocytes	J. A. HIGGINS & J. L. HUTSON	147
Asymmetric synthesis of phosphatidylethanolamine by base exchange in rat liver endoplasmic reticulum	J. L. HUTSON & J. A. HIGGINS	148
ATP-dependent activation of acyl-coenzyme A: cholesterol acyltransferase; catalysis by a cytoplasmic enzyme	K. H. SKRZYPCZAK & M. J. P. HIGGINS	150
Identification and relative composition of minor fatty acids of mouse erythrocyte membrane phospholipids	D. R. WING & D. J. HARVEY	151
Inhibition of liver ATP citrate lyase in the presence of L-glutamate	C. C. RIDER & A. P. WILSON	152
Does lipid accumulation in rodent liver necessarily lead to peroxisome proliferation?	S. C. PRICE, D. E. HALL & R. H. HINTON	153
Effect of phthalate esters on triglyceride synthesis and export in hepatocytes	F. E. MITCHELL & R. H. HINTON	154
Relationship between cholesterol supply and phosphorylation in the regulation of acyl-CoA: cholesterol acyltransferase	M. J. P. HIGGINS, M. R. HALLOWS, K. BASHEERUDDIN, K. SKRZYPCZAK & S. RAWSTORNE	155
L-Carnitine decreases [¹⁴ C]malonyl-CoA binding to rat liver mitochondria	M. I. BIRD & E. D. SAGGERSON	156
Antibodies to probe the receptor-binding region of human apoprotein E	R. W. JAMES & D. POMETTA	156
Regulation of triacylglycerol synthesis by translocation of phosphatidate phosphohydrolase from the cytosol to the membrane-associated compartment	S. C. BUTTERWITH, A. MARTIN, C. CASCALES, E. H. MANGIAPANE & D. N. BRINDLEY	158
Control of the activities of phosphatidate phosphohydrolase and tyrosine aminotransferase by glucocorticoids, cyclic AMP and insulin in rat hepatocytes	R. A. PITTNER, E. H. MANGIAPANE, R. FEARS & D. N. BRINDLEY	159

Liver lipoprotein lipase activity in Intralipid-injected rats	S. VILARÓ, M. REINA & M. LLOBERA	160
Evidence for a membrane-associated form of the major aminopeptidase of human skeletal muscle	N. J. WATMOUGH, B. LAUFFART, R. J. M. LANE, D. MANTLE & R. J. T. PENNINGTON	162
Degradation of naturally occurring peptides by two Ca ²⁺ -activated proteinases purified from human skeletal muscle	D. MANTLE, K. DAVISON, J. R. McDERMOTT, A. M. KIDD, B. LAUFFART & R. J. T. PENNINGTON	163
Presynaptic nicotinic autoreceptors in rat hippocampus	S. J. MOSS & S. WONNACOTT	164
Antibodies to γ -glutamyl transpeptidase produced by immunization <i>in vitro</i>	S. MURPHY, J. EASTBURN & C. MORROW	165
Effect of substance P on the release of acetylcholine at the frog neuromuscular junction	F. A. WALI	167
5-Hydroxyindoleacetic acid and homovanillic acid in the cerebrospinal fluid and caudate nucleus of histologically verified examples of Alzheimer's disease	A. M. PALMER & D. M. BOWEN	167
Influence of sialic acid on the surface hydrophobicity of membranes	I. SHELTON, P. S. GASCOINE, D. M. TURNER & D. FISHER	168
Membrane from wool cuticle cells	C. F. ALLEN, S. A. DOBROWSKI, P. T. SPEAKMAN & E. V. TRUTER	170
Relevance of reduced concentrations of somatostatin in Alzheimer's disease	P. T. FRANCIS & D. M. BOWEN	170
Evoked dopamine release in primary brain tissue culture	A. BAROCHOVSKY & H. F. BRADFORD	172
Specific immunolysis of synaptosomes using antisera against choline acetyltransferase, glutamate decarboxylase and tyrosine hydroxylase	M. DOCHERTY, H. F. BRADFORD, J.-Y. WU, T. J. JOH & D. J. REIS	173
Induction of endplate-specific acetylcholinesterase by β -endorphin C-terminal dipeptide in rat and chick muscle cells	L. W. HAYNES & M. E. SMITH	174
Hydrolysis of benzoyl-tyrosyl- <i>p</i> -aminobenzoic acid by a human intestinal microvillar peptidase	P. W. PEMBERTON & R. W. LOBLEY	175
Catabolism of substance P in the rat stomach	N. W. BUNNETT, M. S. ORLOFF & A. J. TURNER	176
Specific binding sites for oestrogen-receptor-protein complexes in human myometrial nuclei	A. SCOBIE & R. LEAKE	177
Quantification of oestrogen receptor by immunofluorescence	A. L. PIHIE, M. PATEL, J. KUSEL & R. LEAKE	178
Inhibition of aminopyrine accumulation in isolated rat parietal cells by the tumour promoter 12- <i>O</i> -tetradecanoyl-phorbol 13-acetate	N. G. ANDERSON & P. J. HANSON	179
15- <i>L</i> (<i>S</i>)-Hydroxy-5z, 8z, 11z, 13E-eicosatetraenoic acid is a substrate for 5-lipoxygenase	D. WILKINSON, C. HALLAM, P. E. HEMSLEY, G. H. LORD & P. D. MITCHELL	180
Fatty acid analysis of polyphosphoinositides from the gills of cod (<i>Gadus morhua</i>)	M. V. BELL, C. M. F. SIMPSON & J. R. SARGENT	182
Inositol and the phosphoinositides in the ageing brain	C. E. STOKES, K. R. W. GILLON & J. N. HAWTHORNE	183
Activation of muscarinic receptors in bovine adrenal medulla causes rapid polyphosphoinositide breakdown without calcium mobilization	A.-M. F. SWILEM & J. N. HAWTHORNE	184
Polyphosphoinositide metabolism in response to light stimulation of retinal rod outer segments	F. A. MILLAR & J. N. HAWTHORNE	185
Intermediates in the metabolism of C ₂₁ and C ₁₉ steroids in neonatal porcine testis	T. K. KWAN, N. F. TAYLOR, D. WATSON & D. B. GOWER	186
Δ^4 -Steroid 5 α -reductase activity in porcine testicular microsomes	W. J. WATKINS & D. B. GOWER	187
Testicular uptake, release and intracellular movement of steroids	A. D. SMALLEY, N. F. TAYLOR & D. B. GOWER	188
Phosphoinositide metabolism in the bovine anterior pituitary	M. HOLLINGSHEAD, M. THOMPSON & J. G. SCHOFIELD	189
Response of isolated tubule cells to parathyrin	R. PARVEEN, M. F. GRAHN & P. J. BUTTERWORTH	190
Comparison of gluconeogenesis and oxidative phosphorylation in normal and phosphate-depleted chick kidney tubule cells	H. L. BAHT, C. L. LOH, S. MYINT, M. F. GRAHN & P. J. BUTTERWORTH	191
Phosphatidylinositol phosphodiesterase in isolated plasma membranes of rodent skeletal muscle	J. K. SHUTE & M. E. SMITH	193
The effects of bivalent cations on thyroliberin-stimulated inositol phosphate accumulation and prolactin secretion in GH ₃ cells	J. G. BAIRD & B. L. BROWN	194

Ketogenesis from pyruvate and palmitate in hepatocytes isolated from fed rats	C. M. BATTERSBY & L. AGIUS	195
Interference with embryonic nutrition as the teratogenic mechanism of action of suramin and aurothiomalate in rats	S. J. FREEMAN & J. B. LLOYD	196
The identity of surfactant apolipoprotein in adult and fetal lung	A. D. POSTLE, M. CHIN, A. N. HUNT & I. C. S. NORMAND	197
Placental permeability to metabolites in fed and starved rats	M. PALACÍN, M. A. LASUNCIÓN & E. HERRERA	198
Studies in humans on the development of the GST1, GST2 and GST3 isoenzymes	C. G. FAULDER, B. A. DAVIS, W. COTTON, A. D. BAIN, R. HUME & R. C. STRANGE	199
Studies on the glutathione <i>S</i> -transferase of human platelets and erythrocytes	K. S. ROGERSON, D. MITCHELL, A. LAWTON, R. IBBOTSON, W. COTTON & R. C. STRANGE	200
Methylmalonic and propionic aciduria studied by proton-nuclear-magnetic-resonance spectroscopy	A. J. HIND, R. A. CHALMERS & R. A. ILES	201
Is the human placenta a barrier to plasma enzymes?	D. C. WATTS, F. KOUSEIBATI, R. J. EDWARDS & C. H. RODECK	202
Protoporphyrinogen oxidase, porphobilinogen deaminase and uroporphyrinogen decarboxylase in variegate porphyria	P. N. MEISSNER, E. D. STURROCK, M. R. MOORE, P. B. DISLER & D. L. MAEDER	203
Effect of lead on tetrahydrobiopterin levels in rat brain	M. J. MCINTOSH, P. A. MEREDITH, A. GOLDBERG & M. R. MOORE	204
5-Aminolaevulinate dehydratase and carbamazepine in man and rat	G. M. MCGUIRE, M. R. MOORE, G. J. A. MACPHEE, A. GOLDBERG & M. J. BRODIE	205
The effects of hormone manipulation on the histology and porphyrin content of the Harderian gland in the female golden hamster	R. C. SPIKE, J. MCGADEY, H. S. JOHNSTON, A. P. PAYNE, G. G. THOMPSON & M. R. MOORE	206
Bile pigment isomers from degradation of opossum haemoglobin	D. I. VERNON & S. B. BROWN	208
Biliverdin, an intermediate in the biosynthesis of plant pigments	J. A. HOLROYD, D. I. VERNON & S. B. BROWN	209
Enzymic formation of bilirubin IX α in a coupled oxidation system	A. WILKS & S. B. BROWN	210
A low-cost system for student assessment based on a mark-sense card reader and a BBC microcomputer	A. G. BOOTH	211
Teach-test technique in teaching biochemistry	T. G. VICKERS	212
Teaching macromolecular structure through video cassette	R. R. MOORE, A. J. FURTH & H. J. BALL	213
Magnesium depletion: myocardial cellular bioenergetics and phospholipid metabolism	N. BRAUTBAR, K. ANDERSON, M. MAGGOTT & S. G. MASSRY	213
Isolation and partial characterization of two cryptic plasmids from an extreme thermophile	N. D. H. RAVEN & R. A. D. WILLIAMS	214
Immunoprecipitation and characterization of adipocyte-specific plasma membrane components	S. R. LEE & A. CRYER	215
Interactions of plasma lipoproteins with glycosaminoglycans in association with fibronectin <i>in vitro</i>	M. PICARDO & A. CRYER	215
Enzyme inhibitory activity of chicken anti-(rat lipoprotein lipase) serum	A. AL-JAFARI & A. CRYER	216
Cyclic AMP-dependent modulation of α_1 -adrenergic responses in rat liver	N. G. MORGAN, R. CHAREST, P. F. BLACKMORE & J. H. EXTON	217
Erythrocyte glutamate permeability and intracellular glutathione biosynthesis	D. A. FINCHAM, M. M. SHI, J. D. YOUNG & J. S. WILLIS	218
Effects of metal ions on the activity of acetylcholinesterase (EC 3.1.1.7)	R. J. HUGHES & J. BENNETT	219
Human liver UDP-galactose: glycoprotein galactosyltransferase chromatography and cystic fibrosis	J. BUTTERWORTH	220
Neutral α -D-glucosidase in sheep cerebral cortex	J. M. DAWSON, T. J. PETERS, & C. J. BRANFORD WHITE	221
Use of serine-borate affinity chromatography for the purification of γ -glutamyltransferase	N. D. COOK, G. D. SMITH & T. J. PETERS	222
Production of vitamin K by human gut bacteria	F. FERNANDEZ, M. D. COLLINS & M. J. HILL	223
Activities of the coupling factor ATPase during development of pea chloroplasts	P. J. ANDRALOJC & D. A. HARRIS	224
Immunological characterization of the interactions between the F ₁ -ATPase from ox heart mitochondria and its naturally occurring inhibitor protein	I. HUSAIN, P. J. JACKSON & D. A. HARRIS	226

Effect of platelet activation on transglutaminase activity	R. N. BARNES, P. L. WALTON & M. GRIFFIN	227
Flufenamic acid promotes the release of Ca ²⁺ from isolated mitochondria	P. MCNAMEE, A. MARKHAM & A. J. SWEETMAN	228
Radiation inactivation analysis of the human erythrocyte system-L amino acid transporter	D. A. FINCHAM, J. D. YOUNG & J. C. ELLORY	229
Properties of a 14K protein from hypotonic extracts of mitochondria	A. R. BEHAN, A. R. KRALL & E. J. DUKE	230
Intramitochondrial localization of Ruthenium Red	A. R. KRALL, W. J. DOUGHERTY & A. BEHAN	231
Cortical astrocytes in primary culture: presence of neurotransmitter-binding sites	M. CAMBRAY-DEAKIN, S. MURPHY & C. MORROW	231
Glial glycogen stores are regulated by α -adrenergic receptors	B. PEARCE, M. CAMBRAY-DEAKIN & S. MURPHY	232
Some unusual kinetic properties of human platelet lipoxigenase	L. C. RASHBROOK, P. R. BLOWER & R. MELARANGE	233
Calmodulin release from human platelets in response to thrombin: presence of calmodulin in serum	S. W. WALKER, S. MAC NEIL, J. SEID & S. TOMLINSON	234
Effect of the chlorinated hydrocarbon pesticide toxaphene on the utilization of photosynthesis products in susceptible oat	S. AKBAR & L. J. ROGERS	236
Prolidases of human skin fibroblasts	J. BUTTERWORTH & D. A. PRIESTMAN	237
Molecular differences between the human pig erythrocyte nucleoside transporters	F. Y. P. KWONG, Y.-M. CHOY, S. M. JARVIS & J. D. YOUNG	238
An investigation of transglutaminase activity during liver regeneration	R. N. BARNES, P. L. WALTON & M. GRIFFIN	239
Interaction of human placental alkaline phosphatase with the microvillar cytoskeleton	E. H. FAWELL & A. G. BOOTH	240
Reduced polypeptides from Lincoln wool: sodium dodecyl sulphate/polyacrylamide-gel electrophoresis, isoelectric focusing and two-dimensional electrophoresis	J. C. HORN & P. T. SPEAKMAN	241
A four-chain protein from wool keratin microfibrils: preparation and properties	B. AHMADI, N. M. BOSTON, E. EARNSHAW & P. T. SPEAKMAN	242
Interaction of plasma fibronectin with heparin and heparan sulphate	J. R. N. EVINGTON, M. LUSCOMBE & J. J. HOLBROOK	243
A fluorescence quenching study of tryptophan residues of calcium ATPase from sarcoplasmic reticulum	J. C. GOMEZ-FERNANDEZ, M. D. BAENA, J. A. TERUEL, J. VILLALAIN & C. J. VIDAL	244
Regulation of pepsinogen secretion by isolated rat gastric cells	R. I. BERSIMBAEV	245
Effects of pre-weaning adrenalectomy and corticosterone replacement on the development of genetic obesity in the Zucker rat	J. M. FLETCHER	246
Catalytic mechanism of chloramphenicol acetyltransferase: evidence from kinetic and chemical modification studies	C. KLEANTHOUS & W. V. SHAW	247
Effect of pyrophosphate on dihydroxyacetone-phosphate acyltransferase activity in male albino mouse tissues	B. N. PATEL, M. I. MACKNESS, & M. J. CONNOCK	249
Uptake of Li ⁺ by guinea-pig isolated intestinal epithelial cells	N. J. BIRCH, I. P. L. COLEMAN, A. R. KARIM & C. J. MANN	250
Changes in catalase, acyl-CoA oxidase and carnitine octanoyltransferase activities during development of mouse kidney	V. U. NWOSU, R. J. STRICKSON, M. DAVIS, K. BURDETT & M. J. CONNOCK	250
Formation of storage lipids and actinorhodin, a phenolic antibiotic, in <i>Streptomyces coelicolor</i>	N. M. PACKTER, S. FLATMAN & A. J. LUCOCK	251
Thiol dependence of microsomal glucose-6-phosphatase	A. EL-SHARIF & M. BANNER	252
A series of bis-mannosyl-compounds for investigation of sugar-transport systems	P. J. W. MIDGLEY, G. D. HOLMAN & B. A. PARKAR	254
Inhibition of gluconeogenesis and urea synthesis in isolated rat hepatocytes by acetazolamide	H. K. METCALFE, J. P. MONSON, P. J. DREW, R. A. ILES, N. D. CARTER & R. D. COHEN	255
Indirect estimation of natriuretic factor: its concentration and affinity constant for Na ⁺ K ⁺ -ATPase	B. C. MARTIN, H. FAVRE & G. SIEGENTHALER	256
Low-temperature transient kinetic studies of peptide-loop movement in pig heart [Tyr(3NO ₂) ²³⁷]lactate dehydrogenase	A. D. B. WALDMAN, A. R. CLARKE & J. J. HOLBROOK	257
Analysis of protein from acne comedones	P. T. BLADON, N. F. COOPER, R. M. WRIGHT & W. J. CUNLIFFE	258

Interaction of prekeratin with Ca ²⁺ and a possible role for phosphorylation	N. F. COOPER, C. ROBINSON & W. J. CUNLIFFE	259
Ketatin gene expression in <i>o</i> - and <i>p</i> -keratotic regions of mouse-tail epidermis	P. T. BLADON, N. F. COOPER, W. J. CUNLIFFE & E. J. WOOD	259
Molecular cloning of complementary DNA from <i>Limulus polyphemus</i>	E. J. WOOD & R. A. DIXON	261
Analysis of cellular retinoic acid-binding protein in normal human skin	J. K. MCMORRIS & E. J. WOOD	262
The shift of glycolysis in ageing cultured human diploid fibroblasts	A. H. BITTLES & N. HARPER	263
Apparent reconstitution of a membrane transport protein	K. P. WHEELER, B. M. CHARALAMBOUS & S. J. NICKLIN	264
Structure and function of bovine β -lactoglobulin	L. SAWYER, M. Z. PAPIZ, A. C. T. NORTH & E. E. ELIOPOULOS	265
Solubilization of rat central-nervous-system myelin by sodium dodecyl sulphate and its C ₈ , C ₁₀ and C ₁₄ analogues	C. A. LOVELIDGE	266
Effects of detergents on the autoactivation of trypsinogen	B. H. MORELAND & R. P. E. SARKANY	267
The effect of prostaglandin E ₁ on the sensitivity of glycolysis and glycogen synthesis to insulin in stripped soleus muscles of the rat	R. A. J. CHALLISS, F. J. LOZEMAN, L. BUDOHOSKI & E. A. NEWSHOLME	268
Starvation for 24 h decreases fructose 6-phosphate/fructose 1,6-bisphosphate substrate cycling in skeletal muscle	R. A. J. CHALLISS, J. R. S. ARCH & E. A. NEWSHOLME	269
Microprocessor control of heart perfusion experiments	J. A. ILLINGWORTH	270
Sodium phosphate transport in rat ventricle	J. A. ILLINGWORTH, G. MEDINA-RAMIREZ & J. O'REILLY	271
Teaching metabolic regulation through videocassettes	R. D. A. LANG, A. J. FURTH & J. BURGE	271