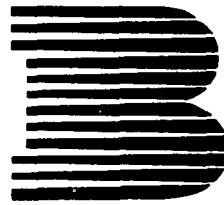


BIOCHEMICAL SOCIETY TRANSACTIONS



London: The Biochemical Society © 1989

Managing Editor
Catherine RICE-EVANS

Contents Volume 17, Part 1, February 1989

627th MEETING, NOTTINGHAM

Colloquium: Phosphoinositides and Inositol Phosphates

| | | |
|--|---|---|
| Inositol lipids and phosphates in growing, stimulated and differentiating cells | R. H. MICHELL | 1 |
| The metabolism and functions of inositol pentakisphosphate and inositol hexakisphosphate | D. CARPENTER, M. R. HANLEY, P. T. HAWKINS, T. R. JACKSON, L. R. STEPHENS & M. VALLEJO | 3 |
| How do inositol 1,4,5-trisphosphate and inositol 1,3,4,5-tetrakisphosphate regulate intracellular Ca^{2+} ? | R. F. IRVINE | 6 |
| Repetitive calcium transients in hormone-stimulated cells | P. COBBOLD, M. DALY, J. DIXON & N. WOODS | 9 |

Colloquium: Biomedical Aspects of Glycoconjugate Recognition

| | | |
|---|--|----|
| Biomedical aspects of lectins | N. SHARON | 11 |
| Demonstration of carbohydrate-recognition activity in diverse proteins which share a common primary structure motif | K. DRICKAMER | 13 |
| Mannose 6-phosphate specific receptors: structure and function | R. POHLMANN, G. NAGEL, A. HILLE, M. WENDLAND, A. WAHEED, T. BRAULKE & K. VON FIGURA | 15 |
| Normal and abnormal glycosylation probed by fast atom bombardment mass spectrometry | A. DELL | 17 |
| Proteoglycan-protein interaction in arterial tissue | A. SCHMIDT | 19 |
| Role of <i>N</i> -glycosylation for the plasma clearance of rat liver secretory glycoproteins | V. GROSS, K. STEUBE, T.-A. TRAN-THI, W. GEROK & P. C. HEINRICH | 21 |
| Changes in cell-surface glycoconjugates during embryonic development demonstrated using lectins and other probes | S. J. KIMBER | 23 |
| Role of cell surface glycoproteins in embryo cell adhesion to extracellular matrix | M. AUBERY & P. CODOGNO | 27 |
| Asparagine-linked oligosaccharides in malignant tumour growth | J. W. DENNIS, S. LAFERTÉ & I. VANDERELST | 29 |
| A hormone-related pro-cathepsin D secreted by human mammary cancer cells | F. CAPONY, M. GARCIA, P. MONTCOURRIER, V. CAVAILLES, P. AUGEREAU, P. BRIOZZO, F. VIGNON & H. ROCHEFORT | 31 |
| Sialic acids and penultimate oligosaccharides on metastatic tumour cell surfaces | A. PASSANITI & G. W. HART | 33 |

Colloquium: Insulin, Diabetes and Lipid Metabolism

| | | |
|---|--|----|
| Role of insulin in the integration of lipid metabolism in mammalian tissues | D. H. WILLIAMSON | 37 |
| Role of insulin and other hormones in the control of lipoprotein lipase activity | D. S. ROBINSON & B. K. SPEAKE | 40 |
| Role of insulin and counter-regulatory hormones in the control of hepatic glycerolipid synthesis and low-density-lipoprotein catabolism in diabetes | D. N. BRINDLEY, N. F. BROWN, A. M. SALTER, S. C. FISHER & R. FEARS | 43 |

| | | |
|--|---|-----|
| Alterations in the regulation of lipolysis in brown and white adipose tissue in the diabetic state | E. D. SAGGERSON | 47 |
| Insulin, diabetes and hepatic very-low-density lipoprotein metabolism | G. F. GIBBONS | 49 |
| Effect of diabetes on the metabolism of triacylglycerol-rich lipoproteins | C. M. ARBEENY & H. A. EDER | 51 |
| Lipoproteins and atherosclerosis in diabetes mellitus | G. SCHONFELD | 53 |
| Treatment of diabetic dyslipidaemia | M. A. DENKE & S. M. GRUNDY | 56 |
| Dual role of lipids in the stimulus–secretion coupling for insulin release | W. J. MALAISSE | 59 |
| How does glucose induce inositol lipid hydrolysis in pancreatic islets? | L. BEST | 60 |
| Role of protein kinase C in the regulation of insulin secretion | P. M. JONES & S. L. HOWELL | 61 |
| Calcium handling by stimulated islets of Langerhans | N. G. MORGAN, R. D. HURST, N. S. BERRROW & W. MONTAGUE | 64 |
| Colloquium: Alzheimer's Disease | | |
| Alzheimer's disease: the entity and its cause | M. ROSSOR | 67 |
| Amyloid in Alzheimer's disease | M. LANDON & M. KIDD | 69 |
| Neuropathology of Alzheimer's disease: towards an understanding of the pathogenesis | D. M. A. MANN | 73 |
| Molecular genetics of Alzheimer's disease | J. A. HARDY, M. J. OWEN, A. M. GOATE, L. A. JAMES, A. R. HAYNES, M. N. ROSSOR, P. ROQUES & M. J. MULLAN | 75 |
| Cholinergic treatments for Alzheimer's disease | F. ROBERTS & S. LAZARENO | 76 |
| Serotonergic involvement in learning and memory | A. J. HUNTER | 79 |
| Disinhibitory properties of β -carboline antagonists of benzodiazepine receptors: a possible therapeutic approach for senile dementia? | M. SARTER & D. N. STEPHENS | 81 |
| Nootropics and metabolically active compounds in Alzheimer's disease | C. D. NICHOLSON | 83 |
| COMMUNICATIONS | | |
| 626th MEETING, SHEFFIELD | | |
| Colloquium: Some Recent Applications of Mass Spectrometry to Biochemistry | | |
| Tandem mass spectrometry applied to protein structure problems | K. BIEMANN | 237 |
| Fast atom bombardment-mass spectrometry strategies for analysing glycoprotein glycans | J. E. THOMAS-OATES & A. DELL | 243 |
| Applications of mass spectrometry including combined gas chromatography-mass spectrometry in taxonomic studies of bacteria | D. B. DRUCKER & S. A. JENKINS | 245 |
| Progress in plasma desorption mass spectrometry of peptides and proteins | P. ROEPSTORFF, P. F. NIELSEN, K. KLARSKOV & P. HØJRUP | 250 |
| Novel sample preparation for analysis by electron capture negative ionization mass spectrometry | J. T. WATSON & K. KAYGANICH | 254 |

COMMUNICATIONS

| | | |
|--|--|-----|
| Effect of lithium on thyrotropin-stimulated adenylate cyclase activity in the human thyroid | M. S. WRAGG & S. MACNEIL | 87 |
| A search for a hormone-sensitive inositol lipid pool in WRK 1 mammary tumour cells | S. H. MACCALLUM, P. A. HUNT, R. H. MITCHELL & C. J. KIRK | 88 |
| Purification of two membrane-derived species of phospholipase C from rabbit brain | H. R. CARTER, D. BOJANIC, P. A. KENT, M. A. WALLACE & J. N. FAIN | 89 |
| Cyclic AMP enhances the vasopressin-mediated stimulation of inositol phosphate production in cultured rat hepatocytes | R. A. PITTLER & J. N. FAIN | 90 |
| Stimulation of α_1 - but not of α_2 -adrenoceptors causes hydrolysis of phosphoinositides in the femoral vein of the rat | D. STUBBS, J. SMITH, M. G. THOMPSON, J. A. HICKMAN, K. A. WILSON & O. A. DOWNING | 91 |
| Repetitive spiking of cytoplasmic calcium in human endothelial cells | R. JACOB, J. E. MERRITT, T. J. RINK & T. J. HALLAM | 92 |
| Effects of C_{18} fatty acids on phosphoinositide turnover in cultured human umbilical vein endothelial cells | C. M. M. MILES, M. SCHACHTER & P. S. SEVER | 93 |
| Effects of the Ca^{2+} -mobilizing tumour promotor thapsigargin and an inositol trisphosphate mobilizing agonist on cytosolic Ca^{2+} in bovine adrenal chromaffin cells | T. R. CHEEK, R. B. MORETON, M. J. BERRIDGE & O. THASTRUP | 94 |
| Phosphoinositide turnover in membrane fractions from the renal cortex of the rat | D. J. PHIPPS, M. G. THOMPSON, E. K. Y. TANG, J. A. HICKMAN & E. S. HARPUR | 95 |
| Purification of two phosphoinositidase C species from rat brain | J. L. BLANK & J. N. HAWTHORNE | 96 |
| Carbachol increases phosphoinositide metabolism and cytosolic free calcium in SK-N-SH human neuroblastoma cells | J. G. BAIRD, D. G. LAMBERT & S. R. NAHORSKI | 97 |
| Polyamines inhibit phospholipase C-catalysed polyphosphoinositide hydrolysis | R. J. H. WOJCIKIEWICZ & J. N. FAIN | 98 |
| M2 muscarinic cholinergic receptors expressed by a human neuroblastoma SK-N-SH | D. G. LAMBERT, A. S. GHATAORRE & S. R. NAHORSKI | 99 |
| Response to muscarinic stimulation in rat pituitary GH ₃ cells in relation to thyrotropin releasing hormone-induced phosphoinositide turnover and activation of membrane GTPase | H. YAGISAWA, S. H. SIMMONDS & J. N. HAWTHORNE | 100 |
| Platelet-activating factor induces inositol 1,4,5-tris- and 1,3,4,5-tetrakis-phosphate production in U937 cells | J. A. CREBA, A. PRITCHARD, S. G. WARD & J. WESTWICK | 101 |
| Inositol 1,4,5-trisphosphate and inositol 1,3,4,5-tetrakis-phosphate metabolism in HL60 cells | J. A. CREBA, J. FREARSON & A. PRITCHARD | 102 |
| Characterization of the major endo-1,4- β -D-glucanases from the cellulase of <i>Penicillium pinophilum/funiculosum</i> | K. M. BHAT, S. I. McCRAE & T. M. WOOD | 103 |
| Heterogeneity of endo-1,4- β -D-glucanase activity in <i>Penicillium pinophilum/funiculosum</i> cellulase | K. M. BHAT & T. M. WOOD | 104 |
| Structure-function analysis of the multivalent <i>Escherichia coli</i> vitamin B ₁₂ receptor | N. A. C. BUNCE, A. J. P. FLETCHER, J. T. ARMSTRONG, S. E. HUFTON & R. E. GLASS | 105 |
| Output-dependent non-parallel secretion of amylase and chymotrypsinogen by the rat pancreas | P. J. PADFIELD, O. MUSA, H. HADLEY & R. M. CASE | 106 |
| Glycoproteins of the rough endoplasmic reticulum membrane | C. MEREDITH, M. KADERBHAI & B. AUSTEN | 107 |
| Insulin- and phorbol-ester-induced phosphorylation of a rat adipocyte phosphoprotein which binds calmodulin only in the absence of calcium | J. R. McDONALD & J. C. LAWRENCE, JR | 108 |
| Effects of low insulin levels and a biologically inert insulin (guinea-pig) upon rat embryonic growth and development | J. P. TRAVERS, M. K. PRATTEN & F. BECK | 109 |
| A comparative study of glucagon action in human and rat hepatocyte cultures | L. AGIUS & D. TOSH | 110 |
| The major role of acetoacetyl-CoA thiolase in acetoacetate utilization confirmed in human cells | R. DAY & B. MIDDLETON | 111 |
| Inhibition of cholesterol esterification in rat hepatocytes is necessary for down-regulation of low-density-lipoprotein receptor activity | A. M. SALTER, M. AL-SEENI, D. N. BRINDLEY & B. MIDDLETON | 112 |
| Inhibition of protein synthesis in islets of Langerhans by sera containing islet cell antibodies | M. DRONFIELD & K. W. TAYLOR | 113 |
| Radial thin layer chromatographic radioautographic scans of steroid metabolism in the presence of thalidomide | C. LYNE & D. B. GOWER | 114 |

| | | |
|---|--|-----|
| Effect of glucose on cytosolic calcium and inositol phosphates in insulin-secreting HIT-T15 cells | J. MEATS, L. BEST & S. TOMLINSON | 115 |
| Membrane-associated iron-species and membrane oxidation in sickle-cell disease | A. HARTLEY & C. RICE-EVANS | 116 |
| Pertussis toxin reverses noradrenaline inhibition of insulin release from electrically permeabilized islets | S. J. PERSAUD, P. M. JONES & S. L. HOWELL | 118 |
| Expression of rabbit α -casein in mouse fibroblasts | T. G. BURDON, J. D. WINDASS & R. J. MAYER | 119 |
| Production of transgenic mice containing a prokaryotic DNA alkyltransferase repair gene | P. F. SEARLE, J. M. TINSLEY, P. J. O'CONNOR & G. P. MARGISON | 120 |
| Liposomes facilitate uptake of lipid-soluble vitamins after oral delivery to normal and bile-duct obstructed rats | J. H. SENIOR, G. GREGORIADIS, D. P. R. MULLER, Y. V. PATHAK & N. MCINTYRE | 121 |
| Evidence for local feedback control of human milk secretion | A. PRENTICE, C. V. P. ADDEY & C. J. WILDE | 122 |
| A role for cytoplasmic calcium in the stimulation of neutrophil adhesion | M. P. A. DAVIES, K. E. MOORES & J. E. MERRITT | 123 |
| An index to quantify the apparent regulation of orthophosphate concentration in mammalian cells | A. BEVINGTON, G. J. KEMP & R. G.G. RUSSELL | 124 |
| Platelet-activating factor induced inositol phosphate turnover in murine macrophages | E. S. WIJELATH, A. M. KARDASZ & J. WATSON | 125 |
| Use of a rapid method for dehydrating polyacrylamide gels after electrophoresis of cell adhesion molecules | V. A. FERRO, J. F. AITON & G. CRAMB | 126 |
| The consequences of acyl coenzyme A: cholesterol acyltransferase inhibition by cyclandelate on low-density lipoprotein metabolism by J774 macrophages | F. HEFFRON, D. WHITE & B. MIDDLETON | 127 |
| A novel method for the covalent coupling of sugars to liposomes | G. GREGORIADIS, V. WEISSIG, L. TAN & Q. XIAO | 128 |
| Incorporation of reconstituted influenza virus envelopes into liposomes: studies of the immune response in mice | L. TAN, A. LOYTER & G. GREGORIADIS | 129 |
| Saccharides on maternal endometrial epithelium at implantation in the sheep | A. WHYTE & R. B. HEAP | 130 |
| Binding of <i>Artocarpus</i> lectins to plasma glycoproteins | J. M. PEKELHARING & T. ANIMASHAUN | 131 |
| Characterization of labelled material secreted by a suspension of cells isolated from the rat gastric mucosa and preincubated with D-[6- ³ H]glucosamine | A. C. KEATES & P. J. HANSON | 132 |
| Presence of human α -3-L-fucosyltransferase in the white cells of an individual who lacks this enzyme in serum | P. H. JOHNSON, P. O. SKACEL, P. GREENWELL & W. M. WATKINS | 133 |
| Tissue differences in the isoelectric focusing profiles of the human blood group A^1 and A^2 gene specified glycosyltransferases | P. GREENWELL and W. M. WATKINS | 134 |
| Serum α -fetoprotein and thyroxine-binding globulin in hepatocellular carcinoma | M.-Q. DU, W. L. HUTCHINSON, P. J. JOHNSON & R. WILLIAMS | 135 |
| Hormonally regulated secretion of keratan sulphate by human endometrial epithelium | J. D. APLIN, M. E. HOADLEY & M. W. SEIF | 136 |
| Mannose residues mediate the rapid clearance <i>in vivo</i> of a ricin A-chain immunotoxin | A. J. CUMBER, G. D. PARNELL, R. V. HENRY, J. A. FORRESTER & E. J. WAWRZYNCAK | 137 |
| Cheiloluminescent labelling of proteoglycans at the aortic luminal surface | S. J. RICHARDS & F. S. WUSTEMAN | 138 |
| Dietary linoleic acid and rat platelet sialic acid | C. BOLTON-SMITH, F. W. HEMMING & L. McGREGOR | 139 |
| Glycosylation and expression of the muscarinic acetylcholine receptor in GH ₃ pituitary tumour cells | P. LACY & F. W. HEMMING | 140 |
| Molecular characterization of two immunologically related, synapse-enriched glycoproteins, gp65 and gp55 | T. G. WILLMOTT, C. P. SELKIRK, I. D. SKITSAS & P. W. BEESLEY | 142 |
| Cell-retained and secreted proteoglycans synthesized by murine T-lymphoma cell line, RDM-4 | A. P. WILSON & C. C. RIDER | 143 |
| Studies on the cDNA of the mouse 14 kDa β -galactoside lectin | T. J. G. WILSON, M. N. FIRTH, F. L. HARRISON & J. T. POWELL | 144 |
| Carbohydrate metabolism in human adipose tissue <i>in vivo</i> | S. W. COPPACK, K. N. FRAYN, P. L. WHYTE & S. M. HUMPHREYS | 145 |
| Lipases in heart and the effect of insulin | S. L. SMITH, M. BELL & M. P. ROGERS | 146 |
| Glucagon increases mitochondrial 3-hydroxy-3-methylglutaryl-coenzyme A synthase activity <i>in vivo</i> by desuccinylating the enzyme | P. A. QUANT, P. K. TUBBS & M. D. BRAND | 147 |
| Gas chromatographic-mass spectrometric identification of some 3,16-dioxygenated steroids in non-pregnant and in pregnant mare urine and placental tissue | M. C. DUMASIA, E. HOUGHTON, M. S. MOSS, D. B. GOWER & D. E. MARSHALL | 148 |

| | | |
|---|---|-----|
| Stimulation of glycolysis by insulin: its implications for the stability of adipocyte plasma membranes | K. S. ADAMS, D. M. REID, R. C. MUDD & J. I. DAVIES | 150 |
| Increased cholesterogenesis by cultured enterocytes from diabetic rats | U. M. MOORE, P. B. COLLINS, A. H. JOHNSON & G. H. TOMKIN | 151 |
| A novel procedure for the separation of high-density lipoprotein subspecies by affinity chromatography | H. M. WILSON, B. A. GRIFFIN & E. R. SKINNER | 152 |
| Intracellular pH in the diabetic ketoacidotic rat liver: a ^{31}P nuclear-magnetic-resonance study <i>in vivo</i> | J. S. BEECH, S. R. WILLIAMS, R. D. COHEN & R. A. ILES | 153 |
| Sites of glucose disposal on glucose refeeding after starvation | P. G. DRAKE, T. N. PALMER & D. J. COX | 154 |
| Glucose disposal as glycogen on glucose refeeding after starvation | D. J. COX, M. C. SUGDEN & T. N. PALMER | 155 |
| Control of hepatic acyl-CoA:cholesterol acyltransferase in cholesterol-fed rats | M. J. P. HIGGINS & D. K. PAPACHRISTODOULOU | 156 |
| Modification of the fatty acid composition of murine thioglycollate-elicited peritoneal macrophages | P. C. CALDER, D. J. HARVEY, S. GORDON & E. A. NEWSHOLME | 157 |
| Lecithins as surfactants for perfluorochemical emulsification | S. K. SHARMA, K. C. LOWE & S. S. DAVIS | 159 |
| Dynamic laser light scattering measurement of the diffusion coefficients of rat skeletal muscle glycogen fractions | P. C. CALDER, R. GEDDES & P. R. WILLS | 159 |
| Membrane protein conformation as determined by Fourier transform-infra-red spectroscopy | P. I. HARIS & D. CHAPMAN | 161 |
| Application of a novel radioimmunoassay for serotonin in the detection of aromatic L-amino acid decarboxylase activity in isolated renal cortical cells | C. J. WAUGH, I. F. GOW, C. R. W. EDWARDS & B. C. WILLIAMS | 163 |
| Purine synthesis <i>de novo</i> and salvage in Lesch-Nyhan syndrome patients' tissues | J. ALLSOP & R. W. E. WATTS | 164 |
| Phosphate transport across the plasma membrane of liver cells | A. COLQUHOUN, M. JAHAN & P. J. BUTTERWORTH | 165 |
| A mechanism of energy coupling to Fe(III) uptake by mouse duodenum | K. B. RAJA, R. J. SIMPSON & T. J. PETERS | 165 |
| Acute and chronic effects of HP 370 and clozapine on dopamine D ₂ and serotonin-2 receptors: rat brain autoradiographic studies | D. B. ELLIS, A. M. SZCZEPANIK & C. A. WILMOT | 166 |
| Spectroscopic study of the type I collagen α_1 -chain N-telopeptide | P. G. SCOTT | 167 |
| Characterization of a <i>Leishmania donovani</i> antigen similar to heat shock protein 70 | J. MACFARLANE, M. L. BLAXTER, R. P. BISHOP M. A. MILES & J. M. KELLY | 168 |
| Increased protein phosphorylation in guinea-pig hearts perfused with a selective phosphodiesterase inhibitor | M. L. REEVES, P. J. ENGLAND & K. J. MURRAY | 169 |
| Cysteine proteinase inhibitors cause the accumulation of ubiquitin-polypeptide conjugates in lysosomes of 3T3-L1 fibroblasts | F. J. DOHERTY, N. U. OSBORN, J. A. WASELL & R. J. MAYER | 170 |
| Immunochemical demonstration of ubiquitin conjugates in fibroblasts treated with cysteine proteinase inhibitors | F. J. DOHERTY, N. U. OSBORN, J. A. WASELL, L. LASZLO & R. J. MAYER | 171 |
| Induction of malic enzyme genetic expression in rat foetal hepatocyte primary cultures | I. FABREGAT, M. LORENZO & M. BENITO | 172 |
| Changes in the concentration of hepatic fatty acid-binding protein mRNA during development in the rat | M. SHERIDAN & D. C. WILTON | 173 |
| Refined structure-function analysis of the β -subunit of <i>Escherichia coli</i> RNA polymerase | N. T. RALPHS, G. C. ROWLAND & R. E. GLASS | 174 |
| Regulation of hepatic glutaminase mRNA levels in the rat | M. WATFORD & E. M. SMITH | 175 |
| Response of ruminant skeletal muscle Ca ²⁺ proteinases (calpains) to β -agonist treatment | A. K. LOCKLEY, J. HIGGINS, J. M. DAWSON, R. G. BARDSLEY & P. J. BUTTERY | 175 |
| Lipoprotein lipase mRNA in rat tissues | A. G. MACKAY & M. P. ROGERS | 177 |
| Some properties of human haematopoietic growth factors (colony-stimulating factors) | W. S. GILMORE & C. J. LAVERTY | 178 |
| The X-linked murine I-strain skeletal muscle phosphorylase kinase deficiency is not caused by a defect in the γ -subunit gene | E. F. DA CRUZ E SILVA & P. T. W. COHEN | 179 |
| Genetic and physiological modulation of interferon accumulation in <i>Escherichia coli</i> | A. J. GOW & A. R. HIPKISS | 180 |
| Catabolism of aberrant crystallin in cell-free extracts of bovine lens: effects of animal age | P. L. CARMICHAEL & A. R. HIPKISS | 181 |
| Proteolysis in a coupled transcription-translation system in <i>Streptomyces lividans</i> | J. A. WOODCOCK, M. CANNON & A. R. HIPKISS | 183 |

| | | |
|--|---|------------|
| An unusual 5'-leader in the human erythroid-specific carbonic anhydrase I gene | H. J. M. BRADY, N. LOWE, J. C. SOWDEN, J. H. BARLOW & P. H. W. BUTTERWORTH | 184 |
| The use of bacterial fusion proteins in the production of anti-laminin antibodies | J. C. BROWN, G. N. WHEELER, P. N. MATHIAS, J. H. SPRAGG & P. W. TAYLOR | 185 |
| Fibronectin fragments in rheumatoid arthritis | K. E. HERBERT, A. M. GRIFFITHS, D. PERRETT, P. I. MAPP & D. L. SCOTT | 187 |
| Maintenance of mixed-function oxidase activities in primary cultures of rat hepatocytes | C. K. LINDSAY, D. ROTONDO, M. H. GRANT & G. M. HAWKSWORTH | 188 |
| Effects of the K ⁺ channel activator BRL 34915 on aldosterone secretion in isolated rat zona glomerulosa cells | A. M. CREEDY, C. R. W. EDWARDS & B. C. WILLIAMS | 189 |
| Altered synthesis of fibronectin by skin fibroblasts grown from tuberous sclerotic patients | Z. K. ELLIS & F. W. HEMMING | 190 |
| Mechanism of adhesion of alveolar type II cells from rat lung to fibroblasts | R. BHANDARI and J. T. POWELL | 191 |
| Structure and expression of human cytochrome P-450 genes | C. J. GRIFFITH, C. N. A. PALMER, I. SANTISTEBAN, A. HUTTER, E. A. SHEPHERD & I. R. PHILLIPS | 192 |
| Isolation and characterization of genes coding for cytochrome b ₅ and cytochrome-b ₅ reductase | J. S. RIGBY, P. C. BULL, A. ASHWORTH, E. A. SHEPHERD, I. SANTISTEBAN & I. R. PHILLIPS | 194 |
| Site-directed mutagenesis of the aromatic amino acid amino-transferase of <i>Escherichia coli</i> | M. J. GARTLAND, M. G. HUNTER, I. G. FOTHERINGHAM, G. C. ROWLAND & R. E. GLASS | 195 |
| Two isoforms of the catalytic subunit of protein phosphatase 2A identified by cDNA cloning are the products of separate genes | O. B. DA CRUZ E SILVA & P. T. W. COHEN | 196 |
| Turnover of insulin receptors in cells transfected with human insulin receptor cDNA | R. H. GANDERTON, J. WHITTAKER & K. SIDDELE | 197 |
| Insulin action and receptor phosphorylation in cell lines transfected with insulin receptor cDNA | K. SIDDELE, M. A. SOOS, R. M. O'BRIEN & N. P. J. BRINDLE | 198 |
| Comparison of the effects of different isolates of <i>Verticillium</i> on phenylalanine ammonia lyase activity and phytoalexin biosynthesis in tissues of <i>Medicago sativa</i> L. | C. J. SMITH, J. P. LITTLE & M. MILTON | 199 |
| Endogenous elicitor of phytoalexin synthesis from <i>Glycine max</i> L. | C. J. SMITH & P. GOLDRING | 200 |
| Effect of fimbria/fornix lesions on muscarinic and nicotinic receptor densities and muscarinic receptor efficacy in rat hippocampus | C. J. SMITH, J. A. COURT, A. B. KEITH & E. K. PERRY | 201 |
| Modulatory effects of guanylylimidodiphosphate and Mg ²⁺ on [³ H]oxotremorine-M binding in normal and Alzheimer's disease parietal cortex: an index of muscarinic receptor-G-protein coupling | C. J. SMITH, E. K. PERRY & N. J. M. BIRDSALL | 202 |
| Synthesis of ¹⁴ C-labelled L- α -amino- β -methylamino-propionic acid and its metabolism in the rat | D. M. REECE & P. B. NUNN | 203 |
| Direct evidence to suggest that AlF ₄ ⁻ is not the active species involved in fluoride/aluminium G-protein interaction | A.-M. BURNHAM, J. A. COURT, J. R. McDERMOTT, G. A. TAYLOR & J. M. CANDY | 204 |
| Stability of adenylate cyclase coupling to somatostatin and corticotrophin-releasing-factor receptors in frozen post-mortem human cerebral cortex | C. A. WHITFORD, J. A. COURT, M. A. MOSES & J. M. CANDY | 205 |
| Comparison of Ca ²⁺ -activated proteinase enzyme and inhibitor levels in cerebral cortex from normal and Alzheimer disease cases | B. LAUFFART, C. SMITH, E. PERRY, J. McDERMOTT & D. MANTLE | 206 |
| Purification and characterization of pyroglutamyl aminopeptidase from human cerebral cortex | B. LAUFFART, J. R. McDERMOTT, J. A. BIGGINS, A. M. GIBSON & D. MANTLE | 207 |
| Brain enzymes in agonal state and dementia | J. BUTTERWORTH, M. C. TENNANT & C. M. YATES | 208 |
| An investigation of ribonuclease and ribonuclease inhibitor protein activity in Alzheimer's disease | L. M. JONES & J. T. KNOWLER | 209 |
| 9-Amino-1,2,3,4-tetrahydroacridine-1-ol (HP 029) analogues: acetylcholinesterase and amine uptake inhibitory properties | D. B. ELLIS, G. M. BORES, G. M. SHUTSKE & P. F. HUGER | 210 |
| DNA damage and repair in Alzheimer's disease lymphocytes | T. A. D. SMITH, D. NEARY & R. F. ITZHAKI | 211 |
| Hypoxic amnesia and its reversal with forskolin | A. J. McCULLOCH, T. A. THOMSON, R. DEACON & C. R. GARDNER | 212 |
| Lipid composition of different regions of the brain in patients with Alzheimer's disease | E. R. SKINNER, C. WATT, J. A. O. BESSON & P. V. BEST | 213 |

| | | |
|---|--|-----|
| Protein degradation in mouse brain slices | U. ROMLONG, D. M. REECE, P. B. NUNN & A. R. HIPKISS | 214 |
| Analysis of muscle proteins from Duchenne muscular dystrophy and normal cases via SDS/polyacrylamide-gel electrophoresis | B. LAUFFART, K. DAVISON, L. NICHOLSON & D. MANTLE | 215 |
| Mechanisms of agonist synergism in human isolated platelets | P. R. TRANTER, K. R. BRUCKDORFER & M. SCHACHTER | 216 |
| The insulin-sensitivity of phosphodiesterase activities released by hypotonic extraction of hepatocyte particulate fractions | N. G. ANDERSON & M. D. HOUSLAY | 217 |
| Interaction between metal ions and neuroleptics | C. M. MORRIS, J. M. CANDY & J. A. EDWARDSON | 218 |
| Human muscle acetylcholine receptor: cloning and expression in <i>Escherichia coli</i> of cDNA for the α -subunit | D. BEESON, M. BRYDSON, H. WOOD, A. VINCENT & J. NEWSOM-DAVIS | 219 |
| Epitopes on human acetylcholine receptor α -subunit: binding of monoclonal antibodies to recombinant and synthetic peptides | H. WOOD, D. BEESON, A. VINCENT & J. NEWSOM-DAVIS | 220 |
| Photoreceptor dysplasia in the Abyssinian cat: biochemical and electrophysiological evidence for abnormal cyclic nucleotide metabolism | A. A. HUSSAIN, A. LEON, R. CURTIS & K. C. BARNETT | 221 |
| Immunolocalization of the gangliosides GM1 and GD3 in cultured explants and sections of the rat retina | N. A. GREGSON, A. R. JOHNSON, D. F. WHEELER & M. J. VOADEN | 222 |
| Toxicity of spermine in BHK-21/C13 cells | V. G. BRUNTON, M. H. GRANT & H. M. WALLACE | 223 |
| Guanine nucleotide binding proteins associated with chloroplast thylakoid membranes | P. A. MILLNER | 224 |
| Fructose-1,6-bisphosphate aldolases from guinea-pig cerebral cortex: effects of variation of pH and substrate concentration observed in glycine-NaOH buffer | P. C. NICHOLAS | 225 |
| Fructose-1,6-bisphosphate aldolases from guinea-pig cerebral cortex: variation of enzyme activity with substrate concentration observed in Tris/HCl buffer | P. C. NICHOLAS | 227 |
| Fructose-1,6-bisphosphate aldolases from guinea-pig cerebral cortex: determination of Michaelis constant and the apparent dependence on protein concentration | P. C. NICHOLAS | 228 |
| Cloning of the pullulanase gene from <i>Klebsiella pneumoniae</i> | B. M. McBRIDE & E. STEVENS | 229 |
| Non-radioactive detection of viral DNA immobilized on to microtitre plates | G. C. N. PARRY & A. D. B. MALCOLM | 230 |
| Metabolism of 25-hydroxyvitamin D by a human osteosarcoma cell 20S | S. P. THOMPSON, D. J. HOSKING & D. A. WHITE | 231 |
| Synthesis of cytoplasmic, contractile and stromal protein fractions in gastrocnemius muscles from ethanol-fed rats | V. R. PREEDY & T. J. PETERS | 232 |
| Sedimentation analysis of the Pf 1 gene 5 protein | P. J. MORGAN, S. E. HARDING, S. E. PLYTE & G. G. KNEALE | 234 |
| Mitochondrial calcium metabolism in <i>Drosophila</i> | A. R. KRALL, H. QAZZAZ, E. J. DUKE & A. R. BEHAN | 235 |
| ^{31}P , ^{87}Rb and ^{23}Na studies of the perfused rat kidney | J. L. ALLIS, Z. H. ENDRE & G. K. RADDIA | 236 |