
Contents

Volume 6, Part 6, 1978

	PAGE
577TH MEETING, OXFORD	
Colloquium: Structural Approaches to the Biological Activities of Proteins	
Regulation of glycogen phosphorylase: Intersubunit transmission of ligand effects. <i>By</i> M. K. Battersby & G. K. Radda	1105
Crystallographic studies on the structure and function of glycogen phosphorylase <i>b</i> . <i>By</i> L. N. Johnson, K. S. Wilson, I. T. Weber, D. L. Wild, J. A. Jenkins & E. A. Stura	1108
The crystal structure of 6-phosphogluconate dehydrogenase. <i>By</i> M. J. Adams, I. G. Archibald, J. R. Helliwell & S. E. Jenkins	1112
X-ray analysis of thyroid hormone binding to prealbumin. <i>By</i> C. C. F. Blake, J. M. Burridge & S. J. Oatley	1114
Prediction of protein structure from amino acid sequence. <i>By</i> M. J. E. Sternberg & J. M. Thornton	1119
The conformational mobility of proteins and its functional significance. <i>By</i> R. J. P. Williams	1123
Structural basis of recognition in the immune response. <i>By</i> S. B. Easterbrook-Smith, P. Závodszy, K. J. Willan, P. Gettins & R. A. Dwek	1126
Nuclear-magnetic-resonance studies of metabolism in perfused organs. <i>By</i> P. J. Seeley	1131
Colloquium: Gluconeogenesis and its Regulation	
Regulation of glucose production <i>in vivo</i> . <i>By</i> P. M. Brown, S. Gundogdu, N. Wilson & P. H. Sönksen	1134
Comparative studies on the influence of hormones on metabolite compartmentation in isolated liver cells during gluconeogenesis from lactate. <i>By</i> E. A. Siess, D. G. Brocks & O. H. Wieland	1139
Phosphorylation/dephosphorylation mechanisms and the control of gluconeogenesis (<i>by title only</i>). <i>By</i> H.-D. Söling	1144
Inhibition of gluconeogenesis by tryptophan and metabolites. <i>By</i> C. I. Pogson, K. R. F. Elliott, M. A. Lomax & S. A. Smith	1144
Gluconeogenesis in birds. <i>By</i> D. R. Langslow	1148
Gluconeogenesis in ruminants. <i>By</i> D. B. Lindsay	1152

	PAGE
Communications	
Biosynthesis of branched-chain fatty acids by preparations from bovine adipose tissue. <i>By</i> K. W. J. Wahle, S. M. Paterson & G. A. Garton	1157
Aspects of ω - and ($\omega-1$)-oxidation of fatty acids by microsomal preparations from sheep liver. <i>By</i> K. W. J. Wahle, W. R. Hare & S. M. Paterson	1158
Studies on the involvement of androst-16-enes and other steroids in steroid biosynthesis in boar testis. <i>By</i> G. M. Cooke & D. B. Gower	1159
Cytosolic and nuclear distribution of radiolabelled glycocholic acid and endogenous cholic acid conjugates in rat liver. <i>By</i> R. C. Strange, G. J. Beckett & I. W. Percy-Robb	1162
Differences between 15-hydroxyprostaglandin dehydrogenase from pig placenta and human placenta. <i>By</i> N. Bradbear & J. Jeffery	1164
Preparation of 15-hydroxyprostaglandin dehydrogenase from human placenta and estimation of its molecular weight. <i>By</i> O. T. Mak & J. Jeffery	1165
Haptoglobin concentration and the activity of an endogenous inhibitor of prostaglandin synthetase in blood plasma or serum. <i>By</i> S. A. Saeed, P. A. Kendall, W. J. McDonald-Gibson & H. O. J. Collier	1166
Hydroxyl-radical formation during prostaglandin formation catalysed by prostaglandin cyclo-oxygenase. <i>By</i> P. J. O'Brien & F. J. Hawco	1169
Peroxidase activity in rat liver nuclear envelope as a marker enzyme. <i>By</i> G. Stubbs & J. R. Harris	1172
Instability of mammalian liver nuclear-envelope nucleoside triphosphatase. <i>By</i> E. R. Porteous, S. A. Jamieson & P. S. Agutter	1174
Properties of nuclear pore-laminae from a variety of mammalian tissues. <i>By</i> P. S. Agutter, K. Birchall, J. E. Clark, J. A. Hotson & E. R. Porteous	1177
The effect of manganese on the regulation of brain adenylate cyclase by magnesium and adenosine triphosphate. <i>By</i> H. Ohanian, K. Borhanian & A. Bennun	1179
Intracellular distribution of nicotinamide-adenine dinucleotide phosphate-linked isocitrate dehydrogenase, fumarase and citrate synthase in bovine heart muscle. <i>By</i> H. R. Fatania & K. Dalziel	1182
Measurement of proteolytic activity in biological materials using ^{125}I -labelled casein. <i>By</i> J. C. Marsden	1184
Hydrolysis of artificial substrates by enterokinase and trypsin and the development of a sensitive specific assay for enterokinase in serum. <i>By</i> D. A. W. Grant, A. I. Magee & J. Hermon-Taylor	1184
Inactivation of sycamore glutamate dehydrogenase by pyridoxal 5'-phosphate. <i>By</i> R. D. J. Barker	1186
The effect of changed sterol composition on the kinetics of mitochondrial membrane enzymes in the yeast <i>Saccharomyces cerevisiae</i> . <i>By</i> S. Al-Mahdawi & J. M. Haslam	1189
	1978

	PAGE
Isolation of <i>Neurospora crassa</i> -bovine L-glutamate dehydrogenase hybrids. By D. H. Watson	1190
Inactivation of cathepsin D by 2,4,6-trinitrobenzenesulphonic acid. By T. Malliopoulos & E. T. Rakitzis	1192
Conformational stability of lactate dehydrogenase from <i>Bacillus thermus-aquaticus</i> . By S. Lakatos, G. Halász & P. Závodszky	1195
Selective solubilization of type-I collagen from calf skin by cathepsin D. By P. G. Scott & H. Pearson	1197
Degradation of skin dermatan sulphate proteoglycan by cathepsin D. By H. Pearson, J. D. Davies, G. J. Gibson, S. Lehocky & P. G. Scott	1199
The development of sucrase in the intestinal brush-border membrane of the suckling rat. By H.-P. Hauri & J. R. Green	1202
Lipoprotein lipase in 'Christiesomes' from goats' milk: A membrane-bound enzyme. By R. A. Clegg	1205
Bovine serum apo-lipoprotein effectors of milk lipoprotein lipase. By R. A. Clegg	1207
Immunochemical localization of nitrate reductase in <i>Escherichia coli</i> . By A. Graham & D. H. Boxer	1210
Effects of activation agents on uridine diphosphate glucuronosyltransferase activity towards acceptor substrates of different octanol/buffer partition coefficients. By H. P. A. Illing	1211
Isolation of ferredoxin-nicotinamide-adenine dinucleotide phosphate (oxidized) reductase from a prokaryote. By G. N. Hutber, A. J. Smith & L. J. Rogers	1214
Studies on the two ferredoxins from <i>Pisum sativum</i> . By J. E. Dutton, L. J. Rogers, B. G. Haslett & D. Boulter	1217
The high- K_m cyclic AMP phosphodiesterase of baker's yeast is a zinc metallo-enzyme. By J. Londesborough	1218
Regulatory properties of pyruvate carboxylase from <i>Aspergillus nidulans</i> : Evidence for the presence of a masked activator site. By A. G. Chapman & M. C. Scrutton	1220
The inactivation of penicillinase by methylacetimidate. By M. S. Davies & R. Virden	1222
Citrate regulation of NADP ⁺ -specific isocitrate dehydrogenase of <i>Aspergillus niger</i> . By M. Matthey & I. Bowes	1226
Desensitization of bovine liver glutamate dehydrogenase by 1-fluoro-2,4-dinitrobenzene. By K. G. Gould & P. C. Engel	1226
Evidence for multi-site phosphorylation of pyruvate dehydrogenase within intact mitochondria. By W. A. Hughes & R. M. Denton	1228

	PAGE
Organization of the ribosomal ribonucleic acid gene cluster of <i>Neurospora crassa</i> by means of restriction endonucleases and cloning in bacteriophage lambda. <i>By</i> R. A. Cox & K. Peden	1230
A novel recombinant of phage lambda and a conserved 3000-base-pair fragment of <i>Xenopus laevis</i> ribosomal deoxyribonucleic acid produced by restriction with endonucleases <i>HindIII/BamI</i> . <i>By</i> R. A. Cox & R. Thompson	1232
Role of subunits in yeast ribonucleic acid polymerase A. <i>By</i> C. S. Cooper & R. V. Quincey	1233
Selective release of monoribosomes from normal and regenerating rat liver nuclei. <i>By</i> M. G. Ord & L. A. Stocken	1235
The effects of cortisol on transfer ribonucleic acid methylase activity and protein metabolism in cancer tissue. <i>By</i> W. De Loecker, A. M. Leyman & F. De Wever	1237
Anti-digoxin antibody incorporation into liposomes: A potential therapy for digoxin toxicity. <i>By</i> D. A. Tyrrell, P. I. Campbell, N. G. L. Harding, A. Monro & B. E. Ryman	1239
Uptake of liposome-entrapped agents by the trypanosome <i>Crithidia fasciculata</i> . <i>By</i> C. Vakirtzi-Lemonias & G. Gregoriadis	1241
The effect of ethoxyquin on the hepatotoxicity of dimethylnitrosamine and carbon tetrachloride in the rat. <i>By</i> J. C. Phillips, C. E. Topp, D. Mendis, R. Walker & S. D. Gangolli	1244
The effect of 4-hydroxybiphenyl and 2-naphthol on hepatic xenobiotic metabolism and the urinary excretion of metabolites of the D-glucuronic acid pathway in the rat. <i>By</i> B. G. Lake, R. C. Longland, I. A. Herod, M. A. Collins & S. D. Gangolli	1246
Metabolism of anticancer drugs: a rapid and specific enzyme immunoassay for methotrexate. <i>By</i> N. G. L. Harding, A. Simmonds, G. F. Shanks & J. M. Whiteley	1248
The effect of treatment with a polychlorinated-biphenyl mixture on hepatic and extrahepatic xenobiotic metabolism in the rat and ferret. <i>By</i> B. G. Lake, M. A. Collins & S. D. Gangolli	1251
The chemical nature of the binding sites for triethyltin in cat haemoglobin. <i>By</i> B. M. Elliott, W. N. Aldridge & J. W. Bridges	1252
Reaction of 3-isothiocyanatonaphthalene-1,5-disulphonate with amino acids, peptides and proteins. <i>By</i> E. T. Rakitzis & T. B. Malliopolou	1254
Homologous regions of colicins E1 and K and colicins E2 and E3. <i>By</i> D. H. Watson, B. W. Durkacz & D. J. Sherratt	1257
Reversible cross-linking for cysteine thiol groups by alkane bismethylthiosulphonate reagents. <i>By</i> D. P. Bloxham	1259
Homologous metal-binding sites of myosin regulatory light chains revealed by the paramagnetic manganous ion. <i>By</i> C. R. Bagshaw & J. Kendrick-Jones	1262
	1978

	PAGE
A correction to Weber's description of ligand binding by allosteric proteins. <i>By</i> D. A. Fell	1264
Analytical subcellular fractionation and enzymic analysis of dystrophic mouse skeletal muscle. <i>By</i> J. S. Neerunjun, V. Dubowitz & T. J. Peters	1266
Isolation of an adenosine 3':5'-cyclic monophosphate-binding protein from tissues of higher plants. <i>By</i> C. J. Smith, E. G. Brown, R. P. Newton & M. J. Edwards	1268
Evidence for myosin associated with bovine photoreceptor outer segments. <i>By</i> J. Hesketh, N. Virmaux & D. Aunis	1271
Decreased troponin C concentrations in vitamin D-deficient rabbit skeletal muscle. <i>By</i> M. J. O. Francis, J. J. Pointon, R. Smith & D. A. Mercola	1273
Measurements of cytochrome <i>c</i> -cytochrome <i>aa</i> ₃ complex formation by aqueous two-phase partition. <i>By</i> L. C. Petersen	1274
Determination of the activity of 3-iodopyridine-adenine dinucleotide as hydride acceptors in the presence of several dehydrogenases by using a coupled redox system. <i>By</i> M. A. Abdallah & J. F. Biellmann	1276
Light-induced protein uptake in chloroplasts suspended in fluid media at subzero temperatures (<i>by title only</i>). <i>By</i> R. P. Cox & L. F. Olsen	1277
Micellar-solubilized water clusters as media for enzyme reactions at subzero temperatures. <i>By</i> C. Balny, E. Keh & P. Douzou	1277
Studies on some metalloenzymes in aqueous/organic solvents at subzero temperatures. <i>By</i> A. D. Tsopanakis, R. C. Bray, S. J. Tanner & B. E. Smith	1279
Use of subzero temperatures and aqueous/organic solvent systems to increase the stability of labile enzymes. <i>By</i> A. Tsopanakis, C. Tsopanakis & S. Shall	1282
Electron-transfer mechanisms in multihaem cytochromes. <i>By</i> J. J. G. Moura, A. V. Xavier, D. J. Cookson, G. R. Moore, R. J. P. Williams, G. Fauque, M. Bruschi & J. Le Gall	1285
Topography of nitrate reductase of the cytoplasmic membrane of <i>Escherichia coli</i> : The nitrite-reducing site. <i>By</i> R. W. Jones, W. J. Ingledew, A. Graham & P. B. Garland	1287
Light-activated reactions in bacterial cytochrome <i>P</i> -450 cycle: A study at subzero temperatures. <i>By</i> P. Debey & C. Balny	1289
On the current-voltage relationships of energy-transducing membranes: Phosphorylating membrane vesicles from <i>Paracoccus denitrificans</i> . <i>By</i> D. B. Kell, P. John & S. J. Ferguson	1292
The respiratory chain and proton electrochemical gradient in the alkalophile <i>Bacillus pasteurii</i> . <i>By</i> M. H. Hoddinott, G. A. Reid & W. J. Ingledew	1295
The cytochrome content of <i>Escherichia coli</i> grown with different terminal electron acceptors. <i>By</i> G. A. Reid & W. J. Ingledew	1298

	PAGE
<i>On the current-voltage relationships of energy-transducing membranes: Sub-mitochondrial particles. By M. C. Sorgato, S. J. Ferguson & D. B. Kell</i>	1301
<i>The apparent non-identity of cytochrome <i>c</i> reductase and flavin-dependent azoreductase activities. By A. K. Mallett, R. Walker & L. J. King</i>	1302
<i>3-Azidodibenzofuran, a photoactivated inhibitor for reduced nicotinamide-adenine dinucleotide-ubiquinone reductase. By F. G. P. Earley & D. P. Bloxham</i>	1305
<i>Purification and properties of mitochondrial L-3-glycerophosphate-ubiquinone oxidoreductase. By I. R. Cottingham & C. I. Ragan</i>	1307
<i>The oestrogen receptor in the rat hypothalamus: Nuclear responses to oestrogen administration. By J. O. White & L. Lim</i>	1310
<i>The effects of neonatal administration of testosterone ('androgenization') on sex-hormone receptors in the hypothalamus and uterus of the adult female rat. By S. Thrower, J. O. White & L. Lim</i>	1312
<i>Perinatal development of gluconeogenic enzymes in the liver of the rabbit. By S. Callikan & J. Girard</i>	1314
<i>Control of lactating rat mammary-gland metabolism by insulin. By A. M. Robinson & D. H. Williamson</i>	1316
<i>The response to hormones and anti-hormones of human breast tumour cells grown in continuous culture. By M. J. Page, J. K. Field & C. D. Green</i>	1318
<i>Activation of hepatic glycogen phosphorylase in anoxic liver. By R. J. Sharma, L. M. Rodrigues & D. A. Hems</i>	1319
<i>A binding assay for thyroxine-binding globulin based on its affinity for thyroxine-Sepharose-4B. By M. Land & P. G. H. Byfield</i>	1321
<i>Metabolic interactions between hepatic fatty acid oxidation and gluconeogenesis in the newborn rat. By P. Ferré, J.-P. Pégurier, D. Williamson & J. Girard</i>	1323
<i>The microbial metabolism of cyclohexylacetic acid. By H. J. Ougham & P. W. Trudgill</i>	1324
<i>Phenazine-1,6-dicarboxylate as the common precursor of other bacterial phenazines. By A. J. M. Messenger & J. M. Turner</i>	1326
<i>¹³C hyperfine splitting of some molybdenum electron-paramagnetic-resonance signals from xanthine oxidase. By S. J. Tanner, R. C. Bray & F. Bergmann</i>	1328
<i>Ethylene glycol as a very slow substrate for xanthine oxidase. By S. J. Tanner & R. C. Bray</i>	1331
<i>A new molybdenum electron-paramagnetic-resonance signal from treatment of functional xanthine oxidase with ethylene glycol. By S. J. Tanner & R. C. Bray</i>	1333
<i>The implications of the novel iron electron-paramagnetic-resonance signal observed on binding nitric oxide to soya-bean lipoxygenase (by title only). By J. R. Galpin, G. Veldink, J. F. G. Vliegthart & J. Bondingh</i>	1336

	PAGE
Ribulose 1,5-bisphosphate carboxylase from autotrophic micro-organisms. <i>By</i> D. Harrison, L. J. Rogers & A. J. Smith	1336
Characterization of hydrogenases from blue-green algae. <i>By</i> M. J. Llama, J. L. Serra, K. K. Rao & D. O. Hall	1337
Solubilization and partial purification of the membrane-bound hydrogenase of <i>Escherichia coli</i> . <i>By</i> M. W. W. Adams & D. O. Hall	1339
Model compounds with superoxide dismutase activity: Iron porphyrins and other iron complexes. <i>By</i> B. Halliwell & R. F. Pasternack	1342
Oxidation of thiol compounds by catalase and peroxidase in the presence of manganese(II) and phenols. <i>By</i> J. De Rycker & B. Halliwell	1343
Modulation of model biomembrane fluidity by hydrogenation with an amphiphilic catalyst. <i>By</i> T. D. Madden & P. J. Quinn	1345
Proteins, phospholipid distribution and fluidity in membranes of the Gram-negative bacterium <i>Erwinia carotovora</i> . <i>By</i> S. D. Shukla, C. Green & J. M. Turner	1347
Mitochondrial reduced nicotinamide-adenine dinucleotide dehydrogenase is transmembranous. <i>By</i> S. Smith & C. I. Ragan	1349
A salt-induced reversible co-operative transition in the pig thyrotropin receptor. <i>By</i> E. A. Carrey, B. Rees Smith & R. Hall	1352
Coiled-coil structure of murein lipoprotein. <i>By</i> A. D. McLachlan	1353
Incorporation of L-[³ H]fucose and D-[³ H]glucosamine into pig epidermal cell-surface glycoproteins. <i>By</i> I. A. King & G. M. Gray	1354
The filtration of protein solutions across films of renal basement membrane <i>in vitro</i> . <i>By</i> G. B. Robinson & T. G. Cotter	1356
Degradation of renal basement membrane by neutral proteinases from rabbit polymorphonuclear leucocytes. <i>By</i> T. G. Cotter & G. B. Robinson	1359
The origin of biphasic Arrhenius plots of rat liver plasma-membrane 5'-nucleotidase. <i>By</i> K. K. Stanley & J. P. Luzio	1361
Chloride-independent transport of pyruvate and lactate across the erythrocyte membrane. <i>By</i> D. R. Leeks & A. P. Halestrap	1363
Resolution of microsomal membrane proteins by two-dimensional gel electrophoresis. <i>By</i> M. Kaderbhai & R. B. Freedman	1366
Covalent-probe-labelling studies with the isolated myelin basic protein. <i>By</i> A. G. Walker & M. G. Rumsby	1369
Modification <i>in vitro</i> by a cross-linking reagent of rabbit liver microsomal proteins induced by β -naphthoflavone. <i>By</i> P. R. McIntosh & R. B. Freedman	1372
The release of erythrocyte membrane antigens to the plasma as membrane microvesicles during the storage of human blood for transfusion. <i>By</i> W. F. Cole, M. G. Rumsby, G. H. Longster & L. A. D. Tovey	1375

	PAGE
Phospholipases in the membranes of rat kidney lysosomes. <i>By</i> S. F. Seager, M. Fry & D. T. Plummer	1378
Multiple forms of acetylcholinesterase from fresh and toluene stored rat brains. <i>By</i> C. J. Vidal, M. S. Chai & D. T. Plummer	1380
The purification and reconstitution of the mitochondrial adenine nucleotide translocase of <i>Saccharomyces cerevisiae</i> . <i>By</i> J. R. Woodrow, W. W. Nichols & J. M. Haslam	1382
576TH MEETING, LONDON	
Picosecond fluorescence studies of photosystem II. <i>By</i> G. S. Beddard, G. R. Fleming, G. Porter & J. A. Synowiec	1385
Studies of photosystem II centres by fluorescence and spectrophotometric measurements. <i>By</i> P. Joliot & A. Joliot	1388
Plasma low-density lipoprotein and the composition of human corneal arcus. <i>By</i> A. F. Winder, G. Sheraidah & A. R. Fielder	1392
BIOCHEMICAL REVIEWS	
Cytokinins. <i>By</i> W. J. Burrows	1395
BOOK REVIEWS	
	1401
INDEXES	
	1417