

Review

- Genetic engineering in mice: impact on insulin signalling and action** 193–204
 by B. Lamothe, A. Baudry, P. Desbois, L. Lamotte, D. Bucchini, P. De Meyts and R.L. Joshi

Research Communication

- The cysteine-string domain of the secretory vesicle cysteine-string protein is required for membrane targeting L.H. Chamberlain and R.D. Burgoyne 205–209

Research Papers

Proteins

- Circe's haemoglobins, pig–human hybrids: functional characterization and structural considerations M.T. Sanna, B. Giardina, M. Pellegrini, A. Olianas, I. Messana, M. Castagnola and M. Corda 211–216
- Modulation of RGD sequence motifs regulates disintegrin recognition of $\alpha_{11b}\beta_3$ and $\alpha_5\beta_1$ integrin complexes. Replacement of Elegantin alanine-50 with proline, N-terminal to the RGD sequence, diminishes recognition of the $\alpha_5\beta_1$ complex with restoration induced by Mn^{2+} cation S. Rahman, A. Aitken, G. Flynn, C. Formstone and G.F. Savidge 247–257
- Susceptibility towards intramolecular disulphide-bond formation affects conformational stability and folding of human basic fibroblast growth factor D. Estape, J. van den Heuvel and U. Rinas 343–349
- Voltammetric studies of the reactions of iron–sulphur clusters ([3Fe-4S] or [M3Fe-4S]) formed in *Pyrococcus furiosus* ferredoxin S.E.J. Fawcett, D. Davis, J.L. Breton, A.J. Thomson and F.A. Armstrong 357–368
- Secondary structure analysis of the putative membrane-associated domains of the inward rectifier K^+ channel ROMK1 S.P. Brazier, B. Ramesh, P.I. Haris, D.C. Lee and S.K.S. Srai 375–380
- Human MUC5AC mucin dimerizes in the rough endoplasmic reticulum, similarly to the MUC2 mucin N. Asker, M.A.B. Axelsson, S.-O. Olofsson and G.C. Hansson 381–387

Enzymes

- Evidence for the presence of multiple forms of Sph kinase in human platelets Y. Banno, M. Kato, A. Hara and Y. Nozawa 301–304
- Evidence for a major structural change in *Escherichia coli* chorismate synthase induced by flavin and substrate binding P. Macheroux, E. Schönbrunn, D.I. Svergun, V.V. Volkov, M.H.J. Koch, S. Bornemann and R.N.F. Thorneley 319–327
- Mammalian cell polyamine homeostasis is altered by the radioprotector WR1065 J.L.A. Mitchell, J. Rupert, A. Leyser and G.G. Judd 329–334
- Crystal structure of the family 7 endoglucanase I (Cel7B) from *Humicola insolens* at 2.2 Å resolution and identification of the catalytic nucleophile by trapping of the covalent glycosyl-enzyme intermediate L.F. Mackenzie, G. Sulzenbacher, C. Divne, T.A. Jones, H.F. Wöldike, M. Schülein, S.G. Withers and G.J. Davies 409–416
- Purification and biochemical characterization of a poly(ADP-ribose) polymerase-like enzyme from the thermophilic archaeon *Sulfolobus solfataricus* M.R. Faraone-Mennella, A. Gambacorta, B. Nicolaus and B. Farina 441–447
- Identification of Glu-277 as the catalytic nucleophile of *Thermoanaerobacterium saccharolyticum* β -xylosidase using electrospray MS D.J. Vocadlo, L.F. Mackenzie, S. He, G.J. Zeikus and S.G. Withers 449–455

Carbohydrates and lipids

- Cytosolic deglycosylation process of newly synthesized glycoproteins generates oligomannosides possessing one GlcNAc residue at the reducing end S. Duvet, O. Labiau, A.-M. Mir, D. Kmićcik, S.S. Krag, A. Verbert and R. Cacan 389–396

Sialomucin complex at the rat ocular surface: a new model for ocular surface protection	S.A. Price-Schiavi, D. Meller, X. Jing, J. Merritt, M.E. Carvajal, S.C.G. Tseng and K.L. Carraway	457–463
Gene structure and expression		
The mouse ADP-ribosylation factor-like 4 gene: two separate promoters direct specific transcription in tissues and testicular germ cell	S. Jacobs, A. Schürmann, W. Becker, T.M. Böckers, N.G. Copeland, N.A. Jenkins and H.-G. Joost	259–265
Cloning and characterization of GETS-1, a goldfish Ets family member that functions as a transcriptional repressor in muscle	D. Goldman, M.K. Sapru, S. Stewart, J. Plotkin, T.A. Libermann, B. Wasylyk and K. Guan	267–275
Glucose induces expression of stearyl-CoA desaturase in 3T3-L1 adipocytes	B.H. Jones, M.K. Standridge, K.J. Claycombe, P.J. Smith and N. Moustaid-Moussa	405–408
Regulation of metabolism		
The rate of sphingomyelin synthesis <i>de novo</i> is influenced by the level of cholesterol in cultured human skin fibroblasts	P. Leppimäki, R. Kronqvist and J.P. Slotte	285–291
Membrane and bioenergetics		
The insertion of human apolipoprotein H into phospholipid membranes: a monolayer study	S.-X. Wang, G.-p. Cai and S.-f. Sui	225–232
Characterization of the hypertonically induced tyrosine phosphorylation of erythrocyte band 3	G. Minetti, C. Seppi, A. Ciana, C. Balduini, P.S. Low and A. Brovelli	305–311
Energy requirements for two aspects of phospholipid metabolism in mammalian brain	A.D. Purdon and S.I. Rapoport	313–318
Effects of cholesterol depletion by cyclodextrin on the sphingolipid microdomains of the plasma membrane	S. Ilangumaran and D.C. Hoessli	433–440
Receptors and signal transduction		
Stimulation of gene expression in neonatal rat ventricular myocytes by Ras is mediated by Ral guanine nucleotide dissociation stimulator (Ral.GDS) and phosphatidylinositol 3-kinase in addition to Raf	S.J. Fuller, S.G. Finn, J. Downward and P.H. Sugden	241–246
Functional analysis of the T-cell-restricted protein tyrosine kinase Txk	J.H. Ellis, R.P.M. Suttmuller, M.J. Sims and S. Cooksley	277–284
Effect of nutritional state on the formation of a complex involving insulin receptor IRS-1, the 52 kDa Src homology/collagen protein (Shc) isoform and phosphatidylinositol 3'-kinase activity	J. Dupont, M. Derouet, J. Simon and M. Taouis	293–300
Phosphatidylinositol 4-kinase, but not phosphatidylinositol 3-kinase, is present in GLUT4-containing vesicles isolated from rat skeletal muscle	S. Kristiansen, T. Ramlal and A. Klip	351–356
Phosphatidylinositol 3-kinase associates with an insulin receptor substrate-1 serine kinase distinct from its intrinsic serine kinase	K.A. Cengel, R.E. Kason and G.G. Freund	397–404
Atypical protein kinase C λ binds and regulates p70 S6 kinase	K. Akimoto, M. Nakaya, T. Yamanaka, J. Tanaka, S.-i. Matsuda, Q.-P. Weng, J. Aruch and S. Ohno	417–424
Involvement of a local Fenton reaction in the reciprocal modulation by O ₂ of the glucagon-dependent activation of the phosphoenolpyruvate carboxykinase gene and the insulin-dependent activation of the glucokinase gene in rat hepatocytes	T. Kietzmann, T. Porwol, K. Zierold, K. Jungermann and H. Acker	425–432
Cell biology and development		
Purification and characterization of autophagosomes from rat hepatocytes	P.E. Strømhaug, T.O. Berg, M. Fengsrud and P.O. Seglen	217–224
Oxidation of DNA bases, deoxyribonucleosides and homopolymers by peroxyl radicals	T. Simandan, J. Sun and T.A. Dix	233–240
The effects of a Ca ²⁺ chelator and heavy-metal-ion chelators upon Ca ²⁺ oscillations and activation at fertilization in mouse eggs suggest a role for repetitive Ca ²⁺ increases	Y. Lawrence, J.P. Ozil and K. Swann	335–342
Sulphated glycosaminoglycans prevent the neurotoxicity of a human prion protein fragment	M. Perez, F. Wandosell, C. Colaço and J. Avila	369–374