

## Research Papers

### Proteins

- The periodontopathogen *Porphyromonas gingivalis* binds iron protoporphyrin IX in the  $\mu$ -oxo dimeric form: an oxidative buffer and possible pathogenic mechanism  
 J.W. Smalley, J. Silver, P.J. Marsh and A.J. Birss **681–685**
- Mucus glycoproteins from pig gastric mucosa: different mucins are produced by the surface epithelium and the glands  
 H. Nordman, J.R. Davies and I. Carlstedt **687–694**
- Thiol-independent interaction of protein disulphide isomerase with type X collagen during intra-cellular folding and assembly  
 S.H. McLaughlin and N.J. Bulleid **793–800**
- A novel assay *in vitro* of human islet amyloid polypeptide amyloidogenesis and effects of insulin secretory vesicle peptides on amyloid formation  
 Y.C. Kudva, C. Mueske, P.C. Butler and N.L. Eberhardt **809–813**
- Regulation of integrin function: evidence that bivalent-cation-induced conformational changes lead to the unmasking of ligand-binding sites within integrin  $\alpha 5 \beta 1$   
 A.P. Mould, A.N. Garratt, W. Puzon-McLaughlin, Y. Takada and M.J. Humphries **821–828**
- Cloning and expression of a cDNA encoding a new neurocalcin isoform (neurocalcin  $\alpha$ ) from bovine brain  
 M. Kato, Y. Watanabe, S. Iino, Y. Takaoka, S. Kobayashi, T. Haga and H. Hidaka **871–876**
- LIM domains of cysteine-rich protein 1 (CRP1) are essential for its zyxin-binding function  
 K.L. Schmeichel and M.C. Beckerle **885–892**
- Interaction of macrophage-migration-inhibitory factor with haematin  
 J.L. Pennock, J. Wipasa, M.P. Gordge and D.J. Meyer **905–908**

### Enzymes

- The mechanism of catalysis and the inhibition of the *Bacillus cereus* zinc-dependent  $\beta$ -lactamase  
 S. Bounaga, A.P. Laws, M. Galleni and M.I. Page **703–711**
- Human cathepsin K cleaves native type I and II collagens at the N-terminal end of the triple helix  
 W. Kafienah, D. Brömme, D.J. Buttle, L.J. Croucher and A.P. Hollander **727–732**
- Pseudomonas* cellulose-binding domains mediate their effects by increasing enzyme substrate proximity  
 D.N. Bolam, A. Ciruela, S. McQueen-Mason, P. Simpson, M.P. Williamson, J.E. Rixon, A. Boraston, G.P. Hazlewood and H.J. Gilbert **775–781**
- Determinants of the substrate specificity of human cytochrome P-450 CYP2D6: design and construction of a mutant with testosterone hydroxylase activity  
 G. Smith, S. Modi, I. Pillai, L.-Y. Lian, M.J. Sutcliffe, M.P. Pritchard, T. Friedberg, G.C.K. Roberts and C.R. Wolf **783–792**
- Effects of pH on the structure and function of neuronal nitric oxide synthase  
 A.C.F. Gorren, A. Schrammel, K. Schmidt and B. Mayer **801–807**
- Protein heterogeneity of spinach pullulanase results from the coexistence of interconvertible isomeric forms of the monomeric enzyme  
 A. Henker, I. Schindler, A. Renz and E. Beck **929–935**
- cDNA sequence and heterologous expression of monomeric spinach pullulanase: multiple isomeric forms arise from the same polypeptide  
 A. Renz, S. Schikora, R. Schmid, J. Kossmann and E. Beck **937–945**
- Molecular cloning and expression of a cDNA encoding an olfactory-specific mouse phenol sulphotransferase  
 H.-o. Tamura, Y. Harada, A. Miyawaki, K. Mikoshiba and M. Matsui **953–958**
- Activation of gelatinase–tissue-inhibitors-of-metalloproteinase complexes by matrilysin  
 D.C. von Bredow, A.E. Cress, E.W. Howard, G.T. Bowden and R.B. Nagle **965–972**

### Carbohydrates and lipids

- Bisecting GlcNAc structure is implicated in suppression of stroma-dependent haemopoiesis in transgenic mice expressing *N*-acetylglucosaminyltransferase III  
 M. Yoshimura, Y. Ihara, T. Nishiura, Y. Okajima, M. Ogawa, H. Yoshida, M. Suzuki, K.-i. Yamamura, Y. Kanakura, Y. Matsuzawa and N. Taniguchi **733–742**

Proteoglycans in macrophages: characterization and possible role in the cellular uptake of lipoproteins	B. Halvorsen, U.K. Aas, M.A. Kulseth, C.A. Drevon, E.N. Christiansen and S.O. Kolset	<b>743–752</b>
<b>Gene structure and expression</b>		
Overexpression of prothymosin $\alpha$ accelerates proliferation and retards differentiation in HL-60 cells	P. Rodríguez, J.E. Viñuela, L. Álvarez-Fernández, M. Buceta, A. Vidal, F. Domínguez and J. Gómez-Márquez	<b>753–761</b>
Somatotropin-dependent decrease in fatty acid synthase mRNA abundance in 3T3-F442A adipocytes is the result of a decrease in both gene transcription and mRNA stability	D. Yin, S.D. Clarke, J.L. Peters and T.D. Etherton	<b>815–820</b>
Organization and alternative splicing of the murine phospholipase D2 gene	O.E. Redina and M.A. Frohman	<b>845–851</b>
Periplasmic nitrate-reducing system of the phototrophic bacterium <i>Rhodobacter sphaeroides</i> DSM 158: transcriptional and mutational analysis of the <i>napKEFDABC</i> gene cluster	F. Reyes, M. Gavira, F. Castillo and C. Moreno-Vivián	<b>897–904</b>
Synergistic transcriptional activation of the mouse urokinase plasminogen activator gene and of its enhancer activator protein 1 (AP1) site by cAMP and retinoic acid	R. Mira-Y-Lopez, S. Jaramillo and Y. Jing	<b>909–916</b>
The gene structure and organization of mouse PG-Lb, a small chondroitin/dermatan sulphate proteoglycan	Y. Iwata, T. Shinomura, K. Kurita, M. Zako and K. Kimata	<b>959–964</b>
<b>Membranes and bioenergetics</b>		
Functional consequences of relocating the C-terminal calmodulin-binding autoinhibitory domains of the plasma membrane $\text{Ca}^{2+}$ pump near the N-terminus	H.P. Adamo and M.E. Grimaldi	<b>763–766</b>
Metabolic Control Analysis of the <i>bc<sub>1</sub></i> complex of <i>Saccharomyces cerevisiae</i> : effect on cytochrome c oxidase, respiration and growth rate	H. Boumans, J.A. Berden, L.A. Grivell and K. van Dam	<b>877–883</b>
<b>Receptors and signal transduction</b>		
Activation of the signal transducer gp130 by interleukin-11 and interleukin-6 is mediated by similar molecular interactions	H. Dahmen, U. Horsten, A. Küster, Y. Jacques, S. Minvielle, I.M. Kerr, G. Ciliberto, G. Paonessa, P.C. Heinrich and G. Müller-Newen	<b>695–702</b>
Inhibition of activation-induced apoptosis of thymocytes by all- <i>trans</i> - and 9- <i>cis</i> -retinoic acid is mediated via retinoic acid receptor $\alpha$	Z. Szondy, U. Reichert, J.-M. Bernardon, S. Michel, R. Tóth, É. Karászi and L. Fésüs	<b>767–774</b>
Differential regulation of nicotinic acid–adenine dinucleotide phosphate and cADP-ribose production by cAMP and cGMP	H.L. Wilson and A. Galione	<b>837–843</b>
Ambient but not incremental oxidant generation effects intercellular adhesion molecule 1 induction by tumour necrosis factor $\alpha$ in endothelium	T. Arai, S.A. Kelly, M.L. Brengman, M. Takano, E.H. Smith, P.J. Goldschmidt-Clermont and G.B. Bulkley	<b>853–861</b>
Osmotic swelling-induced activation of the extracellular-signal-regulated protein kinases Erk-1 and Erk-2 in Intestine 407 cells involves the Ras/Raf-signalling pathway	T. van der Wijk, J. Dorrestijn, S. Narumiya, J.A. Maassen, H.R. de Jonge and B.C. Tilly	<b>863–869</b>
Alanine-261 in intracellular loop III of the human gonadotropin-releasing hormone receptor is crucial for G-protein coupling and receptor internalization	D.B. Myburgh, R.P. Millar and J.P. Hapgood	<b>893–896</b>
Actin filaments participate in the relocalization of phosphatidylinositol 3-kinase to glucose transporter-containing compartments and in the stimulation of glucose uptake in 3T3-L1 adipocytes	Q. Wang, P.J. Bilan, T. Tsakiridis, A. Hinek and A. Klip	<b>917–928</b>
Modulation of $\text{Ins}(2,4,5)P_3$ -stimulated $\text{Ca}^{2+}$ mobilization by $\text{Ins}(1,3,4,5)P_4$ : enhancement by activated G-proteins, and evidence for the involvement of a GAP1 protein, a putative $\text{Ins}(1,3,4,5)P_4$ receptor	J.W. Loomis-Husselbee, C.D. Walker, J.R. Bottomley, P.J. Cullen, R.F. Irvine and A.P. Dawson	<b>947–952</b>
<b>Cell biology and development</b>		
Control of growth and differentiation of normal human epithelial cells through the manipulation of reactive nitrogen species	G. Vallette, I. Tenaud, J.-E. Branka, A. Jarry, I. Sainte-Marie, B. Dreno and C.L. Labois	<b>713–717</b>

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Iron loading of isolated rat hepatocytes inhibits asialoglycoprotein receptor dynamics and induces formation of rat hepatic leptin-1 (RHL-1) oligomers	D.D. McAbee, Y.Y. Ling and C. Stich	719–726
Multiple endosomal recycling pathways in rat adipose cells	K.V. Kandror and P.F. Pilch	829–835
<b>BJ Letters</b>		
A re-evaluation of GLUT 7	A. Burchell	973
<b>Corrections</b>		
Modulation of intrahepatic cholesterol trafficking: evidence by <i>in vivo</i> antisense treatment for the involvement of sterol carrier protein-2 in newly synthesized cholesterol transport into rat bile by L. Puglielli, A. Rigotti, L. Amigo, L. Nuñez, A.V. Greco, M.J. Santos and F. Nervi (volume 317, pages 681–687, 1996)		975
Catalytic properties of class A $\beta$ -lactamases: efficiency and diversity by A. Matagne, J. Lamotte-Brasseur and J.-M. Frère (volume 330, pages 581–598, 1998)		975