

Review**Tetrahydrobiopterin biosynthesis, regeneration and functions**

1–16

by B. Thöny, G. Auerbach and N. Blau

Research CommunicationCloning, characterization and mapping of the human *ATP5E* gene, identification of pseudogene *ATP5EP1*, and definition of the ATP5E motif

Q. Tu, L. Yu, P. Zhang, M. Zhang, H. Zhang, J. Jiang, C. Chen and S. Zhao

17–21

Research Papers**Proteins**Identification of *N*^ω-carboxymethylarginine as a novel acid-labile advanced glycation end product in collagen

K. Iijima, M. Murata, H. Takahara, S. Irie and D. Fujimoto

23–27

Physical characterization of the MUC5AC mucin: a highly oligomeric glycoprotein whether isolated from cell culture or *in vivo* from respiratory mucous secretions

J.K. Sheehan, C. Brazeau, S. Kutay, H. Pigeon, S. Kirkham, M. Howard and D.J. Thornton

37–44

The heparin-binding site in tetranectin is located in the N-terminal region and binding does not involve the carbohydrate recognition domain

R.H. Lorentsen, J.H. Graversen, N.R. Caterer, H.C. Thøgersen and M. Etzerodt

83–87

Intracellular maturation and localization of the tumour necrosis factor α convertase (TACE)

J. Schlöndorff, J.D. Becherer and C.P. Blobel

131–138

Function of the farnesyl moiety in visual signalling

N.E.M. McCarthy and M. Akhtar

163–171

Ca²⁺-bound calmodulin forms a compact globular structure on binding four trifluoperazine molecules in solution

N. Matsushima, N. Hayashi, Y. Jinbo and Y. Izumi

211–215

Enzymes

Characterization of heterosubunit complexes formed by the R1 and R2 subunits of herpes simplex virus 1 and equine herpes virus 4 ribonucleotide reductase

Y. Sun and J. Conner

97–104

Probing the specificity of cysteine proteinases at subsites remote from the active site: analysis of P₄, P₃, P₂' and P₃' variations in extended substrates

F.C.V. Portaro, A.B.F. Santos, M.H.S. Cezari, M.A. Juliano, L. Juliano and E. Carmona

123–129

Electrostatic interactions affecting the active site of class Sigma glutathione S-transferase

J.M. Stevens, R.N. Armstrong and H.W. Dirr

193–197

Novel inhibitors of the condensing enzymes of the Type II fatty acid synthase of pea (*Pisum sativum*)

A.L. Jones, D. Herbert, A.J. Rutter, J.E. Dancer and J.L. Harwood

205–209

Carbohydrates and lipids

Biosynthesis of heparin/heparan sulphate: mechanism of epimerization of glucuronyl C-5

A. Hagner-McWhirter, U. Lindahl and J.-p. Li

69–75

Gene structure and expression

Phosphorylation of Oct-2 at sites located in the POU domain induces differential down-regulation of Oct-2 DNA-binding ability

V. Pevzner, R. Kraft, S. Kostka and M. Lipp

29–35

PTRF (polymerase I and transcript-release factor) is tissue-specific and interacts with the BFCOL1 (binding factor of a type-I collagen promoter) zinc-finger transcription factor which binds to the two mouse type-I collagen gene promoters	T. Hasegawa, A. Takeuchi, O. Miyaishi, H. Xiao, J. Mao and K-i. Isobe	55–59
Human amiloride-sensitive epithelial Na ⁺ channel γ subunit promoter: functional analysis and identification of a polypurine-polypyrimidine tract with the potential for triplex DNA formation	S.D. Auerbach, R.W. Loftus, O.A. Itani and C.P. Thomas	105–114
Nucleotides of the tRNA D-stem that play an important role in nuclear-tRNA export in <i>Saccharomyces cerevisiae</i>	J.D. Cleary and D. Mangroo	115–122
Identification and characterization of <i>cis</i> -acting elements conferring insulin responsiveness on hamster cholesterol 7 α -hydroxylase gene promoter	E. De Fabiani, M. Crestani, M. Marrapodi, A. Pinelli, V. Golfieri and G. Galli	147–154
Regulation of the gene promoter for extracellular signal-regulated protein kinase 2 by transcription factors NF-Y and Sp3	N. Sugiura and K. Takishima	155–161
Cytokine-inducible enhancer with promoter activity in both the rat and human manganese-superoxide dismutase genes	R.J. Rogers, S.E. Chesrown, S. Kuo, J.M. Monnier and H.S. Nick	233–242
PfPK6, a novel cyclin-dependent kinase/mitogen-activated protein kinase-related protein kinase from <i>Plasmodium falciparum</i>	V. Bracchi-Ricard, S. Barik, C. DelVecchio, C. Doerig, R. Chakrabarti and D. Chakrabarti	255–263
Large induction of the chemotactic cytokine RANTES during cutaneous wound repair: a regulatory role for nitric oxide in keratinocyte-derived RANTES expression	S. Frank, H. Kämpfer, C. Wetzler, B. Stallmeyer and J. Pfeilschifter	265–273
Regulation of metabolism		
Tissue variation in the control of oxidative phosphorylation: implication for mitochondrial diseases	R. Rossignol, T. Letellier, M. Malgat, C. Rocher and J.-P. Mazat	45–53
Properties of a polyamine transporter regulated by antizyme	K. Sakata, K. Kashiwagi and K. Igarashi	297–303
Membranes and bioenergetics		
Acidocalcisomes and a vacuolar H ⁺ -pyrophosphatase in malaria parasites	N. Marchesini, S. Luo, C.O. Rodrigues, S.N.J. Moreno and R. Docampo	243–253
Receptors and signal transduction		
5-Hydroxytryptamine _{1A} receptor/G $\beta\gamma$ stimulates mitogen-activated protein kinase via NAD(P)H oxidase and reactive oxygen species upstream of Src in Chinese hamster ovary fibroblasts	Y.V. Mukhin, M.N. Garnovskaya, G. Collinsworth, J.S. Grewal, DeK. Pendergrass, T. Nagai, S. Pinckney, E.L. Greene and J.R. Raymond	61–67
The effect of inositol 1,3,4,5-tetrakisphosphate on inositol trisphosphate-induced Ca ²⁺ mobilization in freshly isolated and cultured mouse lacrimal acinar cells	P.M. Smith, A.R. Harmer, A.J. Letcher and R.F. Irvine	77–82
Interleukin-6-induced STAT3 transactivation and Ser ⁷²⁷ phosphorylation involves Vav, Rac-1 and the kinase SEK-1/MKK-4 as signal transduction components	J.-J. Schuringa, L.J.C. Jonk, W.H.A. Dokter, E. Vellenga and W. Kruijer	89–96
Endogenous oxygen radicals modulate protein tyrosine phosphorylation and JNK-1 activation in lectin-stimulated thymocytes	G. Pani, R. Colavitti, S. Borrello and T. Galeotti	173–181
Farnesylcysteine analogues inhibit store-regulated Ca ²⁺ entry in human platelets: evidence for involvement of small GTP-binding proteins and actin cytoskeleton	J.A. Rosado and S.O. Sage	183–192

C-terminal half of tetanus toxin fragment C is sufficient for neuronal binding and interaction with a putative protein receptor	J. Herreros, G. Lalli and G. Schiavo	199–204
Ras effector pathway activation by epidermal growth factor is inhibited <i>in vivo</i> by exoenzyme S ADP-ribosylation of Ras	M.L. Henriksson, R. Rosqvist, M. Telepnev, H. Wolf-Watz, and B. Hallberg	217–222
Rem2, a new member of the Rem/Rad/Gem/Kir family of Ras-related GTPases	B.S. Finlin, H. Shao, K. Kadono-Okuda, N. Guo and D.A. Andres	223–231
Specific role of the extracellular signal-regulated kinase pathway in angiotensin II-induced cardiac hypertrophy <i>in vitro</i>	H. Aoki, M. Richmond, S. Izumo and J. Sadoshima	275–284
Protein kinase C- β contributes to NADPH oxidase activation in neutrophils	L.V. Dekker, M. Leitges, G. Altschuler, N. Mistry, A. McDermott, J. Roes and A.W. Segal	285–289
Partial purification and characterization of a wortmannin-sensitive and insulin-stimulated protein kinase that activates heart 6-phosphofructo-2-kinase	J. Deprez, L. Bertrand, D.R. Alessi, U. Krause, L. Hue and M.H. Rider	305–312
Regulation of urokinase plasminogen activator gene transcription in the RAW264 murine macrophage cell line by macrophage colony-stimulating factor (CSF-1) is dependent upon the level of cell-surface receptor	L.F. Fowles, K.J. Stacey, D. Marks, J.A. Hamilton and D.A. Hume	313–320
Cell biology and development		
Involvement of the θ -type protein kinase C in translocation of myristoylated alanine-rich C kinase substrate (MARCKS) during myogenesis of chick embryonic myoblasts	S.S. Kim, J.H. Kim, H.S. Kim, D.E. Park and C.H. Chung	139–146
Human cystathionine γ -lyase: developmental and <i>in vitro</i> expression of two isoforms	A.-L. Levonen, R. Lapatto, M. Saksela and K.O. Raivio	291–295