

Editorial Board

Chair

P. R. Shepherd • Auckland

Vice Chair, The Americas

G. Salvesen • La Jolla, CA

Vice Chair, Asia–Pacific

T. Xu • Beijing

Vice Chair, Europe

D. R. Alessi • Dundee

Vice Chair Reviews

A. Toker • Boston, MA

Deputy Chairs

M. Blatt • Glasgow

L. J. Goodyear • Boston, MA

S. V. Graham • Glasgow

D. Hoekstra • Groningen

S. Huber • Urbana, IL

J. E. Ladbury • Houston, TX

M. A. Lemmon • Philadelphia, PA

C. MacKintosh • Dundee

M. Murphy • Cambridge

S. Roberts • Buffalo, NY

M. A. Schwartz • Charlottesville, VA

D. Tosh • Bath

D. M. F. van Aalten • Dundee

B. Vanhaesebroeck • London

H. M. Wallace • Aberdeen

M. F. White • St Andrews

Publisher

P. J. Starley

Executive Editor

M. R. Thorne

Production Manager

M. D. Cunningham

Staff Editors

L. Ball

M. Banerjee

C. L. Curtis

E. A. G. Elloway

J. W. Mockridge

H. F. Roberts

Editorial Assistant

C. V. Hooley

Administrative Editor, US Office

S. Schendel

S. Akira (Osaka)

J. Ariño (Barcelona)

J. M. Backer (Bronx, NY)

B. M. Baker (Notre Dame, IN)

J. L. Blank (Cambridge, MA)

M. A. Bogoyevitch (Melbourne, VIC)

L. H. Boise (Atlanta, GA)

J. Bolaños (Salamanca)

P. J. Booth (Bristol)

L. Bosca (Madrid)

N. J. Buckley (London)

J. F. Cáceres (Edinburgh)

D. Carling (London)

M. Cascante (Barcelona)

Y.-G. Chen (Beijing)

L. Chernomordik (Bethesda, MD)

A. C. Clark (Raleigh, NC)

V. Darley-Usmar (Birmingham, AL)

M. J. Davies (Sydney)

L. A. Devi (New York, NY)

I. Dikic (Frankfurt)

R. Docampo (Athens, GA)

D. Doyle (Dublin)

C. S. Duckett (Ann Arbor, MI)

A. F. Dulhunty (Canberra)

P. Fay (Rochester, NY)

R. Ferraris (Newark, NJ)

P. G. W. Gettins (Chicago, IL)

R. Golsteyn (Lethbridge, AB)

B. Halliwell (Singapore)

I. B. Holland (Orsay)

J. M. Horowitz (Raleigh, NC)

A. Imberty (Grenoble)

D. A. Jans (Monash)

P.-S. Jayaraman (Birmingham)

D. Jordan (Peoria, IL)

M. G. Kazanietz (Philadelphia, PA)

D. W. Laird (London, Ont.)

J. H. Lakey (Newcastle upon Tyne)

K. Lingelbach (Marburg)

D. W. Litchfield (London, Ont.)

P. S. Lorenzo (Honolulu, HI)

E. Manser (Singapore)

M. McManus (Palmerston North)

I. Morgan (Glasgow)

A. J. Morris (Lexington, KY)

M. Muckenthaler (Heidelberg)

B. Mulloy (South Mimms)

A. W. Munro (Manchester)

G. Murphy (Cambridge)

H. Y. Naim (Hannover)

W. Ogawa (Kobe)

G. Panayotou (Vare)

S. Patel (London)

G. Pavitt (Manchester)

N. D. Perkins (Newcastle)

L. Persson (Lund)

P. F. Pilch (Boston, MA)

W. C. Plaxton (Kingston, Ont.)

R. Y. Poon (Hong Kong)

Z. Radic (La Jolla, CA)

D. R. Richardson (Sydney)

K. Rittinger (London)

M. F. Roberts (Boston, MA)

J. M. Sanchez-Ruiz (Granada)

R. Sasisekharan (Cambridge, MA)

N. Savery (Bristol)

J. R. Sayers (Sheffield)

M. C. Seabra (London)

F. J. Sharom (Guelph, Ont.)

G. S. Shelness (Winston-Salem, NC)

E. Smythe (Sheffield)

S. Spiegel (Richmond, VA)

S. Stack (Columbia, MO)

W. M. Stark (Glasgow)

H. Stenmark (Oslo)

C. Tickle (Bath)

N. K. Tonks (Cold Spring Harbor, NY)

M. Torti (Pavia)

C. Tournier (Manchester)

C. Troy (New York, NY)

H. D. Ulrich (South Mimms)

M. van der Woude (York)

A. J. Vidal-Puig (Cambridge)

H. J. Vogel (Calgary)

M. Welham (Bath)

S. Whitney (Canberra)

C. Winterbourn (Christchurch, NZ)

D. Withers (London)

D. Wu (Guangzhou)

A. Xu (Hong Kong)

H. Xue (Shanghai)

H. Yagisawa (Hyogo-Ken)

I. Zachary (London)

C. Zurzolo (Paris)



- Journal compilation © 2010 Biochemical Society
- The *Biochemical Journal* (ISSN 0264-6021 for print/online journal; ISSN 1470-8728 for online only journal) is published and distributed by Portland Press Limited on behalf of the Biochemical Society (the owner), and appears twice monthly (24 issues).
- **Editorial and publishing offices:** *Biochemical Journal*, Portland Press Limited, Third Floor, Charles Darwin House, 12 Roger Street, London WC1N 2JL, U.K.
- **US agent:** c/o Mercury International, 365 Blair Road, Avenel, NJ 07001, U.S.A.
- **Subscriptions department:** Portland Customer Services, P.O. Box 32, Commerce Way, Colchester CO2 8HP, U.K.
- All rights reserved. Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the Copyright, Designs and Patents Act, 1988, this publication may be reproduced, stored or transmitted, in any forms or by any means, only with the prior permission in writing of the publishers, or in the case of reprographic reproduction in accordance with the terms of permissions granted by copyright clearing houses such as the Copyright Licensing Agency (U.K.) or the Copyright Clearance Center (U.S.A.). The CCC item-fee code for this publication is 0264-6021/2010/\$50.00 + 0.00. Inquiries concerning reproduction outside those terms should be sent to the publishers at the above-mentioned address.
- Although, at the time of going to press, the information contained in this publication is believed to be correct, neither the authors nor the editors nor the publisher assume any responsibility for any errors or omissions herein contained. Opinions expressed in articles are not necessarily those of the editors, the publisher or the owner.
- Periodicals postage paid at Rahway, NJ, U.S.A.
- **Postmaster:** send address corrections to *Biochemical Journal*, c/o Mercury International, 365 Blair Road, Avenel, NJ 07001, U.S.A.
- **Cover design:** Angie Moyes (www.fuz.co.uk).
- **Cover image credits:** Microbiology at Leeds, University of Leeds; Carmen A. Mannella Research and Technology Wadsworth Center, Albany, NY; Nottingham *Arabidopsis* Stock Centre (NASC); G. P. Côté, Kingston, Ont.; G. Salvesen, La Jolla; Dr Gordon Beahes, Newcastle University.

● **General policy** The *Biochemical Journal* publishes papers in English in all fields of biochemistry and cellular and molecular biology, provided that they make a sufficient contribution to biochemical knowledge. Papers may include new results obtained experimentally, descriptions of new experimental methods of biochemical importance, or new interpretations of existing results. Novel theoretical contributions will be considered equally with papers dealing with experimental work. All work presented should have as its aim the development of biochemical concepts rather than the mere recording of facts. Preliminary, confirmatory or inconclusive work will not be published. The *Biochemical Journal* will not publish material that has been wholly or largely published elsewhere, even as a preliminary communication or in unreferenced symposium proceedings or on the World Wide Web (WWW); equally, fragmentation of research into the 'least publishable unit' is discouraged.

Submission of a paper implies that it has been approved by all the named authors, that all persons entitled to authorship have been so named, that it reports unpublished work that is not under consideration elsewhere, and that if the paper is accepted for publication the authors will transfer to the Biochemical Society the copyright in the paper, which will then not be published elsewhere in the same form, in any language, without the consent of the Society. Authors will be required to sign an undertaking to these effects.

Authors may suggest potential reviewers for their papers, but the journal is under no obligation to follow such suggestions. Authors may also specify the names of those they wish to be excluded from the review process, and such wishes are usually respected unless, in the opinion of the journal, such a request unreasonably excludes all the expertise available to it in that scientific area.

To allow the reviewers to assess possible overlap with previous work, all submitted papers must be accompanied by duplicate copies of the author's relevant published work, including that on the WWW, and of all related papers in press or under editorial consideration in this or other journals.

The following types of paper are included in the journal.

● **Research Papers** are the normal form of publication, and may be of any length that is justified by their content. However, because of pressure for space in the journal, no paper, whatever its scientific merits, will be accepted if it exceeds the minimum length required for

precision in describing the experiments and clarity in interpreting them. As a guide, most Research Papers published in the *Biochemical Journal* are of between six and eight printed pages. A concise well-written paper tends to be published more rapidly.

● **Accelerated Publications (APs)** are short (normally four printed pages) papers bringing particularly novel and significant findings to the attention of the research community. It is intended that a decision on acceptance or rejection will be made within 10 working days of receipt, and publication of accepted APs in an issue will follow within 2 months. APs receive full but accelerated reviewing. The criteria of 'novelty and significance' are strictly enforced, and papers may be rejected solely on the grounds of lack of novelty and significance. APs are not a path to accelerated publication of sound but non-urgent material. Authors must include in their letter of submission a brief statement of why they believe their AP merits accelerated treatment. Colour figures will be published free of charge in APs, provided the use of colour is deemed scientifically necessary by the reviewers.

● **Reviews** will usually be solicited, although unsolicited reviews will be considered for publication. Prospective writers of reviews should first consult the Reviews Editor, via the editorial office, and should enclose a short (one page) summary of the area they propose to cover.

● **Procedure for submission** These instructions do not replace the official *Biochemical Journal* Instructions to Authors (<http://www.BiochemJ.org>). Authors are encouraged to refer to these for overall guidelines on submitting a paper. Before preparing papers for the journal, authors should consult a current issue to make themselves familiar with the general format, such as the use of cross-headings, layout of tables and figures and citation of references. A full page of text in the *Biochemical Journal* contains approximately 1200 words; when calculating the printed length of papers, allowance must be made for the space occupied by tables and figures and the number of text words reduced accordingly.

The numerical system of references must be used. A reference to 'unpublished work' must be accompanied by the names of all persons concerned; a reference to a 'personal communication' must be supported by written permission for the quotation from the person or persons concerned; both of these types of citation are permitted in the text only, not in the list of references.

● **Submit manuscripts online** Authors should submit manuscripts electronically using the Online Submission and Review System available at <http://www.BiochemJ.org/submit/>

● **Immediate Publications** Manuscripts are published online in PDF format as soon as they are accepted, unless on submission the author requests that this not be done. Immediate Publications are listed in and accessible through Medline, and are freely available to anyone with Internet access.

● **Opt2Pay** Choose to make your paper freely available. For more information see www.biochemj.org.

● **Queries and correspondence** Authors in the Americas should address all queries and correspondence about their submission to: Dr Sharon Schendel, BJ USA, The Sanford-Burnham Institute for Medical Research, 10901 N. Torrey Pines Road, La Jolla, CA 92037, U.S.A. (telephone +1 858 795 5283; fax +1 858 795 5284; email editorial@biochemjusa.org). Authors in the U.K., the rest of Europe, Japan and the rest of the world should contact: The Publisher, *Biochemical Journal*, Portland Press Limited, Third Floor, Charles Darwin House, 12 Roger Street, London WC1N 2JL, U.K. (telephone +44 20 7685 2410; fax +44 20 7685 2469; email editorial@portlandpress.com).

● **Colour figures** Colour figures are published free of charge provided that the corresponding author on the published paper has been a member of the Biochemical Society for at least 2 years and that the use of colour is deemed scientifically necessary by the reviewers. Otherwise the charges are £550 for the first colour figure and £300 for each subsequent colour figure.

● **Multimedia adjuncts** The Biochemical Journal Online offers authors the opportunity to enhance their papers with multimedia adjuncts (e.g. time-lapse movies, three-dimensional structures, animated schemes). These will be submitted to peer review alongside the manuscript. To submit a paper with a multimedia adjunct, please attach the file when you submit your manuscript electronically. Preferred formats are QuickTime for time-lapse movies, PDB for structures and Flash for animated schemes. There is no extra charge associated with the publication of a multimedia adjunct online.

● **COPE** The *Biochemical Journal* is a member of the Committee on Publication Ethics and endorses its guidelines, which are available at <http://publicationethics.org.uk>

Other information

The *Biochemical Journal* is published and distributed by Portland Press Limited on behalf of the Biochemical Society. It is published twice monthly; in 2010 volumes 425-432 (three parts each) will appear. The subscription also includes an author and key-word index.

● **Abstracted by/indexed in:** BIOBASE, BIOSIS, CAB International, Chemical Abstracts Service, Current Contents, EMBASE, International Food Information Service, Medline/Index Medicus, Proquest Information & Learning, Science Citation Index.

● **Subscription rates** Institutional subscription rates for 2010 are shown below. Subscribers to the *Biochemical Journal* can subscribe additionally to *Biochemical Society Transactions* and *Biochemistry and Applied Biochemistry* on a joint subscription at a reduced rate (see www.portlandpress.com for further details). Terms are cash with order (US\$ in N. America, £ sterling for rest of the world, or US\$ equivalent at current rate of exchange; subscribers in the EU may pay in £ sterling or Euros), or against pro forma invoice. Orders should

be sent to the address shown, to your usual agent or purchased online at www.portlandpress.com.

	N. America	Rest of world	Euro price
One year (8 vols)	US\$3922	£1934	€3373
Print and online	US\$3531	£1786	€3036
Online only	US\$180.50	£91	€155
Single issues (print only)			

Overseas rates include airfreight delivery. Airspeeded delivery is available at an additional cost of £80/€101.

Value Added Tax (VAT) on online-only and 'combined' subscriptions is due on supplies to subscribers within the UK, and to non-registered subscribers elsewhere in the EU. If in the EU please state your VAT number otherwise VAT may be charged at the appropriate national rate.

● **Electronic back archive** This is freely available to all users with Internet access.

● **Microfiche and back issues** Volumes 102-408 of the *Biochemical Journal* are available

on microfiche. Back issues are also available. Further details may be obtained from the address below.

● Subscription Department

Portland Customer Services
P.O. Box 32, Commerce Way
Colchester CO2 8HP, Essex, U.K.
(telephone 01206 796351; fax 01206 799331;
email_sales@portland-services.com).

● **Advertising** Enquiries about advertising should be addressed to: Mark Burgess, Editorial Department, Portland Press Limited Third Floor, Charles Darwin House, 12 Roger Street, London WC1N 2JL, U.K., tel.: +44 (0)20 7685 2410; fax: +44 (0)20 7685 2469; email: editorial@portlandpress.com

● The paper and cover-boards used in this journal are sourced from sustainable, managed and renewed commercial forests, and are fully recyclable. The bleaching process used for the pulp is 100% ECF (elemental chlorine free).

Reviews**Structural and mechanistic insight into how antibodies inhibit serine proteases**

Published on the Internet 13 August 2010,
doi:10.1042/BJ20100634

R. Ganesan, C. Eigenbrot and D. Kirchhofer



179–189

Regulation of TGF- β signalling by protein phosphatases

Published on the Internet 13 August 2010,
doi:10.1042/BJ20100427

T. Liu and X.-H. Feng

191–198

Survivin and IAP proteins in cell-death mechanisms

Published on the Internet 13 August 2010,
doi:10.1042/BJ20100814

D.C. Altieri

199–205

Accelerated Publication

Human RASSF7 regulates the microtubule cytoskeleton and is required for spindle formation, Aurora B activation and chromosomal congression during mitosis

Published as BJ Immediate Publication 14 July 2010,
doi:10.1042/BJ20100883

A. Recino, V. Sherwood, A. Flaxman, W.N. Cooper, F. Latif, A. Ward and A.D. Chalmers



207–213

Online Commentary

Adipose tissue inflammation and insulin resistance: all obese humans are not created equal

Published on the Internet 13 August 2010,
doi:10.1042/BJ20101062

(see paper on pp. 141–149 of the previous issue)

M.-S. Gauthier and N.B. Ruderman

e1–e4

Research Papers

Genomic tagging reveals a random association of endogenous PtdIns5P 4-kinases $II\alpha$ and $II\beta$ and a partial nuclear localization of the $II\alpha$ isoform

Published as BJ Immediate Publication 23 June 2010,
doi:10.1042/BJ20100340

M. Wang, N.J. Bond, A.J. Letcher, J.P. Richardson, K.S. Lilley, R.F. Irvine and J.H. Clarke



215–221

PIP4K β interacts with and modulates nuclear localization of the high-activity PtdIns5P-4-kinase isoform PIP4K α

Published as BJ Immediate Publication 28 June 2010,
doi:10.1042/BJ20100341

Y. Bultsma, W.-J. Keune and N. Divecha



223–235

Dual roles for MEF2A and MEF2D during human macrophage terminal differentiation and c-Jun expression

Published as BJ Immediate Publication 1 July 2010,
doi:10.1042/BJ20100131

C. Aude-Garcia, V. Collin-Faure, H. Bausinger, D. Hanau, T. Rabilloud and C. Lemerrier



237–244

Sterol-regulatory-element-binding protein 1c mediates the effect of insulin on the expression of Cidea in mouse hepatocytes

Published as BJ Immediate Publication 24 June 2010,
doi:10.1042/BJ20100701

R. Wang, X. Kong, A. Cui, X. Liu, R. Xiang, Y. Yang, Y. Guan, F. Fang and Y. Chang

245–254

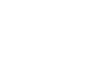
Role of calpain in the regulation of CFTR (cystic fibrosis transmembrane conductance regulator) turnover

Published as BJ Immediate Publication 17 June 2010,
doi:10.1042/BJ20100344

M. Averna, R. Stifanese, R. Grosso, M. Pedrazzi, R. De Tullio, F. Salamino, S. Pontremoli and E. Melloni

255–263

Contents

- Substrate-specific binding and conformational changes involving Ser³¹³ and transmembrane domain 8 of the human reduced folate carrier, as determined by site-directed mutagenesis and protein cross-linking
Published as BJ Immediate Publication 17 June 2010, doi:10.1042/BJ20100181
- Identification and characterization of a strict and a promiscuous *N*-acetylglucosamine-1-P uridylyltransferase in *Arabidopsis*
Published as BJ Immediate Publication 17 June 2010, doi:10.1042/BJ20100315
- Mammalian thioredoxin reductase 1: roles in redox homeostasis and characterization of cellular targets
Published as BJ Immediate Publication 10 June 2010, doi:10.1042/BJ20091378
- NAD-malic enzymes of *Arabidopsis thaliana* display distinct kinetic mechanisms that support differences in physiological control
Published as BJ Immediate Publication 9 June 2010, doi:10.1042/BJ20100497
- Endocytosis of hyaluronidase-1 by the liver
Published as BJ Immediate Publication 17 June 2010, doi:10.1042/BJ20100711
- Interaction of iron regulatory protein-1 (IRP-1) with ATP/ADP maintains a non-IRE-binding state
Published as BJ Immediate Publication 23 June 2010, doi:10.1042/BJ20100111
- Post-transfer editing by a eukaryotic leucyl-tRNA synthetase resistant to the broad-spectrum drug AN2690
Published as BJ Immediate Publication 18 June 2010, doi:10.1042/BJ20100474
- Distribution and paralogue specificity of mammalian deSUMOylating enzymes
Published as BJ Immediate Publication 30 June 2010, doi:10.1042/BJ20100504
- c-Jun N-terminal kinase/c-Jun inhibits fibroblast proliferation by negatively regulating the levels of stathmin/oncoprotein 18
Published as BJ Immediate Publication 1 July 2010, doi:10.1042/BJ20100425
- Promiscuous partnering and independent activity of MexB, the multidrug transporter protein from *Pseudomonas aeruginosa*
Published as BJ Immediate Publication 28 June 2010, doi:10.1042/BJ20091860
- Z. Hou, J. Wu, J. Ye, C. Cherian and L.H. Matherly
- T. Yang, M. Echols, A. Martin and M. Bar-Peled
- A.A. Turanov, S. Kehr, S.M. Marino, M.-H. Yoo, B.A. Carlson, D.L. Hatfield and V.N. Gladyshev
- M.A. Tronconi, M.C. Gerrard Wheeler, V.G. Maurino, M.F. Drincovich and C.S. Andreo
- M.-C. Gasingirwa, J. Thirion, J. Mertens-Strijthagen, S. Wattiaux-De Coninck, B. Flamion, R. Wattiaux and M. Jadot
- Z. Popovic and D.M. Templeton
- X.-L. Zhou, M. Tan, M. Wang, X. Chen and E.-D. Wang
- N. Kolli, J. Mikolajczyk, M. Drag, D. Mukhopadhyay, N. Moffatt, M. Dasso, G. Salvesen and K.D. Wilkinson
- Y.Y.C. Yeap, I.H.W. Ng, B. Badrian, T.-V. Nguyen, Y.Y. Yip, A.S. Dhillon, S.E. Mutsaers, J. Silke, M.A. Bogoyevitch and D.C.H. Ng
- A. Welch, C.U. Awah, S. Jing, H.W. van Veen and H. Venter
-  265–274
-  275–284
-  285–293
-  295–303
-  305–313
-  315–324
-  325–333
-  335–344
-  345–354
-  355–364

Editorial Advisory Panel

- L. Agius (Newcastle upon Tyne)
A. Aitken (Edinburgh)
S. Alexson (Huddinge)
L. Alhonen (Kuopio)
B. Allen (Montréal)
A. Aplin (Albany, NY)
- A. J. Baines (Canterbury)
M. P. Barrett (Glasgow)
G. J. Barritt (Adelaide)
A. Basak (Ottawa)
I. Behrmann (Luxembourg)
D. Benbrook (Oklahoma City)
A. M. Bennett (New Haven, CT)
R. Beyaert (Ghent)
C. D. Bingle (Sheffield)
G. E. Blair (Leeds)
G. B. Bolger (Birmingham, AL)
A. R. Boobis (London)
K. M. Botham (London)
V. M. M. Braga (London)
S. Bratton (Austin, TX)
D. N. Brindley (Edmonton, Alb.)
S. Broer (Canberra)
P. S. Brookes (Rochester, NY)
A. J. Brown (Sydney)
H. Brumer (Stockholm)
U. T. Brunk (Linköping)
N. Bryant (Glasgow)
N. J. Bulleid (Manchester)
T. D. Butters (Oxford)
- E. Cahoon (St. Louis, MO)
K. Cain (Leicester)
J. J. Calvete (Valencia)
D. Campopiano (Edinburgh)
L. Chamberlain (Edinburgh)
K. E. Chapman (Edinburgh)
Y. Chen (Shanghai)
C. H. K. Cheng (Hong Kong)
R. Chiesa (Milan)
A. K. Choudhury (Iowa City)
G. J. Clark (Louisville, KY)
P. J. Coffey (Utrecht)
P. Cohen (Dundee)
S. J. Cook (Cambridge)
M. R. Cookson (Bethesda, MD)
R. Cramer (Davos)
C. E. Creutz (Charlottesville)
K. Croft (Perth)
P. Curnow (Bristol)
- C. Dani (Nice)
R. M. Daniel (Hamilton)
C. J. Danpure (London)
V. L. Davidson (Jackson, MS)
M. J. Davies (Sydney)
S. Dawson (Nottingham)
K. A. DeFea (Riverside, CA)
V. De Filippis (Padua)
A. DeLong (Providence, RI)
N. Demaurex (Geneva)
J.-B. Denault (Sherbrooke, QC)
E. Deuerling (Konstanz)
Q. Deveraux (San Diego)
P. W. Dickson (Callaghan)
M. Dillingham (Bristol)
J. Ding (Shanghai)
A. Dingley (Auckland)
S. Djordjevic (London)
F. E. Domann (Iowa City)
S. Dove (Birmingham)
C. P. Downes (Dundee)
J. A. Downs (Brighton)
A. Draeger (Bern)
K. Drickamer (London)
- E. Ellis (Glasgow)
J. A. Ellis (London)
P. M. Epstein (Farmington, CT)
C. Erneux (Brussels)
P. C. Evans (London)
- M. Falasca (London)
J. Fandrey (Essen)
K. M. Ferguson (Philadelphia)
M. C. Field (Cambridge)
J. U. Flanagan (Auckland)
F. Foufelle (Paris)
K. R. Fox (Southampton)
M. S. Francis (Umeå)
A. M. Fry (Leicester)
P. Fuentes-Prior (Barcelona)
F. V. Fuller-Pace (Dundee)
- C. G. Gahmberg (Helsinki)
T. Galli (Paris)
J. C. Garcia-Barrón (Murcia)
B. Garner (Sydney)
K. L. Gaston (Bristol)
K. Gaus (Sydney)
V. Gerke (Muenster)
M. Ginger (Lancaster)
A. Gomez-Muñoz (Bilbao)
M. Goppelt-Struebe (Erlangen)
P. R. Graves (Richmond, VA)
J. E. Gray (Sheffield)
N. K. Gray (Edinburgh)
F. Gribble (Cambridge)
S. Grinstein (Toronto)
G. Grogan (York)
D. Guerini (Basel)
A. H. Guse (Hamburg)
- A. P. Halestrap (Bristol)
A. Hall (New York)
M. B. Hampton (Christchurch, N.Z.)
P. A. Handford (Oxford)
J. Hanley (Bristol)
G. C. Hansson (Gothenburg)
J. L. Harris (San Diego)
R. K. Hartmann (Marburg)
G. M. Hatch (Winnipeg)
P. T. Hawkins (Cambridge)
J. D. Hayes (Dundee)
O. Hazeki (Hiroshima)
R. P. Hellens (Auckland)
B. Henrissat (Marseille)
T. P. Herbert (Leicester)
H. Hiasa (Minneapolis)
K. Hinchliffe (Manchester)
M. Hodgkin (Coventry)
K. Hoebe (Cincinnati)
G. D. Holman (Bath)
M. J. Holness (London)
M. D. Houslay (Glasgow)
W. E. Hughes (Darlinghurst, NSW)
H. S. Hundal (Dundee)
A. N. Hunt (Southampton)
J. Huntington (Cambridge)
W. Hunziker (Singapore)
- C. M. Isacke (London)
H. Ischiropoulos (Philadelphia, PA)
P. B. Iynedjian (Geneva)
- E. L. Jacobson (Tucson, AZ)
S. Janecek (Bratislava)
J. Jensen (Oslo)
X. Jiang (New York)
J. Johansson (Uppsala)
N. C. Jones (Manchester)
L. B. Justement (Birmingham, AL)
- K. E. Kadler (Manchester)
E. Kalkhoven (Utrecht)
- H. H. Kampinga (Groningen)
D. J. Keeling (Loughborough)
G. J. Kemp (Liverpool)
I. D. Kerr (Nottingham)
A. J. Ketterman (Nakhon Pathom)
S. Keyse (Dundee)
M. R. Kini (Singapore)
L. Kjellen (Uppsala)
E. Klipp (Berlin)
E. Knecht (Valencia)
D. Komander (Cambridge)
O. A. Kost (Moscow)
O. H. Kramer (Jena)
J. Kwon (Seoul)
- W. Laing (Auckland)
S. Lamande (Melbourne)
D. A. Lane (London)
D. J. R. Lane (Sydney)
A. LeBlanc (Montréal)
J.-Y. Lee (Newark, DE)
P. Lefebvre (Lille)
M. Lelippe (Kiel)
C. C. Leslie (Denver)
T. Levade (Toulouse)
R. Lightowlers
(Newcastle upon Tyne)
C. Lindon (Cambridge)
J. S. Lindsey (Pullman, WA)
K. L. Linton (London)
H. J. Lipps (Witten)
D. Liu (Beijing)
O. Lockridge (Omaha, NE)
J. M. Lord (Coventry)
M. Lowe (Manchester)
N. Lowndes (Galway)
A. Luckhoff (Aachen)
K. A. Lukyanov (Moscow)
M. Lyon (Manchester)
- J. A. MacDonald (Calgary)
D. J. MacEwan (Norwich)
L. Mach (Vienna)
J. Mackrill (Cork)
R. Madhubala (New Delhi)
G. Maga (Pavia)
A. I. Magee (London)
C. C. Malbon (Stony Brook, NY)
R. K. Mallampalli (Iowa City)
J. P. G. Malthouse (Dublin)
G. E. Mann (London)
J. S. Marchant (Minneapolis)
J. Martin (Tübingen)
P. E. Martin (Glasgow)
R. W. Mason (Wilmington, DE)
A. E. Mast (Milwaukee, WI)
A. Matagne (Liège)
S. Matthews (Dundee)
M. J. McConville (Melbourne)
I. J. McEwan (Aberdeen)
D. McIntosh (London)
A. G. McLennan (Liverpool)
D. W. Meek (Dundee)
A. R. Merrill (Guelph)
E. Metzzen (Luebeck)
A. J. Michael (Norwich)
M. Migand (Belfast)
A. H. Millar (Crawley, West. Aus.)
E. M. Mills (Austin, TX)
K.-i. Miyamoto (Tokushima)
G. B. Moorhead (Calgary)
A. Morgan (Liverpool)
S. Morley (Brighton)
S. Murphy (Oxford)
- H. Nagase (London)
V. Natarajan (Chicago)
A. R. Nebreda (Madrid)
- P. Newsholme (Dublin)
R. Nibbs (Glasgow)
S. Nicholson (Parkville)
- R. T. O'Keefe (Manchester)
L. A. J. O'Neill (Dublin)
J. M. O'Sullivan (Auckland)
- D. N. Palmer (Canterbury, N.Z.)
R. Palmer (Umeå)
F. Palmieri (Bari)
K. Pantopoulos (Montréal)
R. B. Parsons (London)
L. J. Partridge (Sheffield)
M. Pastor-Anglada (Barcelona)
B. Payrastré (Toulouse)
M. Peckham (Leeds)
S. Perrett (Beijing)
J. M. Peters (University Park, PA)
W. A. Phillips (Melbourne)
T. S. Pillay (Cape Town)
S. M. Pitson (Adelaide)
T. Polenova (Newark, NJ)
V. Ponnambalam (Leeds)
D. Poyner (Birmingham)
C. G. Print (Auckland)
I. Prior (Liverpool)
M. Pusch (Genova)
- W. Qin (Thunder Bay, ON)
B. Qualmann (Magdeburg)
- S. Rahman (Kuala Lumpur)
D. P. Ramji (Cardiff)
E. L. Raven (Leicester)
B. Reaves (Bath)
S. Rebuffat (Paris)
R. J. Reece (Manchester)
G. A. Reid (Edinburgh)
P. S. Rennie (Vancouver)
O. Rey (Los Angeles)
I. Richard (Evry)
S. J. Richardson (Bundooora)
C. C. Rider (Egham)
M. H. Rider (Brussels)
D. J. Riese (West Lafayette, IN)
N. J. Robinson
(Newcastle upon Tyne)
S. Rocha (Dundee)
L. Rönstrand (Malmö)
J. Rouse (Dundee)
E. Rubinstein (Villejuif)
F. Ruggiero (Lyon)
- J.-M. Sabatier (Marseille)
D. B. Sacks (Boston, MA)
P. Saffig (Kiel)
J. P. Salier (Rouen)
M. L. Schmitz (Giessen)
L. Schomburg (Berlin)
N. S. Scrutton (Manchester)
L. C. Serpell (Brighton)
J. K. Sethi (Cambridge)
B. Sha (Birmingham, AL)
Y. Shai (Rehovot)
L. M. Shantz (Hershey, PA)
S. B. Shears
(Research Triangle Park, NC)
T. Shimizu (Sendai)
J. Shorter (Philadelphia, PA)
K. Siddle (Cambridge)
L. Sistonen (Turku)

EDITORIAL ADVISORY PANEL (continued)

A. G. Smith (Leicester)
D. M. Smith (Macclesfield)
M. A. Smith (Cleveland, OH)
M. Soberon (Cuernavaca)
M. Solioz (Bern)
S. Souchelnytskyi (Solna)
J. Spencer (Bristol)
F. Spener (Graz)
M. J. R. Stark (Dundee)
H. R. Stennicke (Bagsvaerd)
G. S. Stewart (Birmingham)
W. Stöcker (Mainz)
A. Y. Strongin (La Jolla, CA)
C. Sutherland (Dundee)

T. Takenawa (Kobe)
C. T. Taylor (Dublin)
M. E. Taylor (London)
A. Tengholm (Uppsala)

A. Tepikin (Liverpool)
V. Tergaonkar (Singapore)
M. Thelen (Bellinzona)
G. Thiel (Homburg)
G. M. H. Thomas (London)
T. Tiganis (Melbourne)
T. Toda (London)
P. J. Tonge (Stony Brook, NY)
K. Török (London)
J. Tovar-Torres (Egham)
P. Trayhurn (Liverpool)
G. C. Tsokos (Boston, MA)

S. Urbé (Liverpool)

J. van Hellemond (Rotterdam)
E. Van Schaftingen (Brussels)
A. Varadi (Budapest)
N. C. Veitch (Kew)

K. Venkateswarlu (Swansea)
F. Villarroya (Barcelona)
D. Vyoral (Prague)

M. C. Wahl (Göttingen)
M. P. Walsh (Calgary)
F. Wan (Bethesda, MD)
H.-G. Wang (Hershey, PA)
M. J. Warren (Canterbury)
S. P. Watson (Birmingham)
R. H. Wenger (Zürich)
G. Werner-Felmayer (Innsbruck)
D. A. White (Birmingham)
J. Whitehead (Brisbane)
I. Wilson (Wien)
J.-O. Winberg (Tromsø)
S. J. Winder (Sheffield)
S. G. Withers (Vancouver)
R. Wojcikiewicz (Syracuse, NY)

P. Wojtaszek (Poznan)
S. Wolf (Berlin)
J. M. Woof (Dundee)
M. C. Wright
(Newcastle upon Tyne)
S. Wright (Leeds)

F. Xu (Davis, CA)
G. Xu (Shanghai)

H. Yang (Sydney)
X.-J. Yang (Montreal)
J. Ye (Sydney)
P. Yen (Taipei)
G. Yeo (Cambridge)

J. M. Zapata (Madrid)
Z. Zhang (Hunan)
X.-L. Zheng (Calgary)
M. Ziegler (Bergen)

Index of Authors

	PAGE		PAGE		PAGE		PAGE
Altieri, D. C.	199	Fang, F.	245	Liu, T.	191	Stifanese, R.	255
Andreo, C. S.	295	Feng, X.-H.	191	Liu, X.	245		
Aude-Garcia, C.	237	Flamion, B.	305			Tan, M.	325
Averna, M.	255	Flaxman, A.	207	Marino, S. M.	285	Templeton, D. M.	315
Awah, C. U.	355			Martin, A.	275	Thirion, J.	305
		Ganesan, R.	179	Matherly, L. H.	265	Tronconi, M. A.	295
Badrian, B.	345	Gasingirwa, M.-C.	305	Maurino, V. G.	295	Turanov, A. A.	285
Bar-Peled, M.	275	Gauthier, M.-S.	e1	Melloni, E.	255		
Bausinger, H.	237	Gerrard Wheeler, M. C.	295	Mertens-Strijthagen, J.	305	van Veen, H. W.	355
Bogoyevitch, M. A.	345	Gladyshev, V. N.	285	Mikolajczyk, J.	335	Venter, H.	355
Bond, N. J.	215	Grosso, R.	255	Moffatt, N.	335		
Bultsma, Y.	223	Guan, Y.	245	Mukhopadhyay, D.	335	Wang, E.-D.	325
				Mutsaers, S. E.	345	Wang, Meng	325
Carlson, B. A.	285	Hanau, D.	237			Wang, Minchuan	215
Chalmers, A. D.	207	Hatfield, D. L.	285	Ng, D. C. H.	345	Wang, R.	245
Chang, Y.	245	Hou, Z.	265	Ng, I. H. W.	345	Ward, A.	207
Chen, X.	325			Nguyen, T.-V.	345	Wattiaux, R.	305
Cherian, C.	265	Irvine, R. F.	215			Wattiaux-De Coninck, S.	305
Clarke, J. H.	215			Pedrazzi, M.	255	Welch, A.	355
Collin-Faure, V.	237	Jadot, M.	305	Pontremoli, S.	255	Wilkinson, K. D.	335
Cooper, W. N.	207	Jing, S.	355	Popovic, Z.	315	Wu, J.	265
Cui, A.	245						
		Kehr, S.	285	Rabilloud, T.	237	Xiang, R.	245
Dasso, M.	335	Keune, W.-J.	223	Recino, A.	207	Yang, T.	275
De Tullio, R.	255	Kirchhofer, D.	179	Richardson, J. P.	215	Yang, Y.	245
Dhillon, A. S.	345	Kolli, N.	335	Ruderman, N. B.	e1	Ye, J.	265
Divecha, N.	223	Kong, X.	245			Yeap, Y. Y. C.	345
Drag, M.	335			Salamino, F.	255	Yip, Y. Y.	345
Drincovich, M. F.	295	Latif, F.	207	Salvesen, G.	335	Yoo, M.-H.	285
		Lemercier, C.	237	Sherwood, V.	207		
Echols, M.	275	Letcher, A. J.	215	Silke, J.	345	Zhou, X.-L.	325
Eigenbrot, C.	179	Lilley, K. S.	215				