



Front cover image: Schematic illustration of the main mitochondrial changes frequently occurring in cancer cells. The reprogramming of mitochondrial metabolism in many cancer cells comprises reduced pyruvate oxidation by PDH followed by the TCA cycle, increased anaerobic feeding of the same cycle, mostly from Glc, whose entry in the mitochondrial matrix is facilitated by UCP2 up-regulation. This increases also the free fatty acids uptake by mitochondria, therefore β -oxidation is pushed to produce acetyl-coenzyme A, whose oxidation contributes to ATP production. In cancer cells many signals can converge on the mitochondrion to regulate the mitochondrial membrane permeability, which may respond by elevating the MPTP (PTP) threshold, with consequent enhancement of apoptosis resistance. ROS belong to this class of molecules since it can enhance Bcl2 and may induce DNA mutations. Dotted lines indicate regulation; solid lines indicate reaction(s).

Publication information: *Biochimica et Biophysica Acta (Bioenergetics)* (ISSN 0005-2728). For 2011, Volume 1807 (12 issues) is scheduled for publication. Subscription prices are available upon request from the Publisher, from the Elsevier Customer Service Department nearest you, or from this journal's website (<http://www.elsevier.com/locate/bbabio>). Further information is available on this journal and other Elsevier products through Elsevier's website (<http://www.elsevier.com>). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

USA mailing notice: *Biochimica et Biophysica Acta (Bioenergetics)* (ISSN 0005-2728) is published monthly by Elsevier B.V. (Radarweg 29, 1043 NX Amsterdam, The Netherlands). Periodicals postage paid at Rahway, NJ 07065-9998, USA, and at additional mailing offices. **USA POSTMASTER:** Send change of address to *Biochimica et Biophysica Acta (Bioenergetics)*, Elsevier Customer Service Department, 3251 Riverport Lane, Maryland Heights, MO 63043, USA. **AIRFREIGHT AND MAILING in the USA:** by Mercury International Limited, 365 Blair Road, Avenel, NJ 07001-2231, USA. **Orders, claims, and journal enquiries:** please contact the Elsevier Customer Service Department nearest you: **St. Louis:** Elsevier Customer Service Department, 3251 Riverport Lane, Maryland Heights, MO 63043, USA; phone: (877) 8397126 [toll free within the USA]; (+1) (314) 4478878 [outside the USA]; fax: (+1) (314) 4478077; e-mail: JournalCustomerService-usa@elsevier.com.

Oxford: Elsevier Customer Service Department, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843434; fax: (+44) (1865) 843970; e-mail: JournalCustomerServiceEMEA@elsevier.com.

Tokyo: Elsevier Customer Service Department, 4F Higashi-Azabu, 1-Chome Bldg, 1-9-15 Higashi-Azabu, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5037; fax: (+81) (3) 5561 5047; e-mail: JournalCustomerServiceJapan@elsevier.com.

Singapore: Elsevier Customer Service Department, 3 Killiney Road, #08-01 Winsland House I, Singapore 239519; phone: (+65) 63490222; fax: (+65) 67331510; e-mail: JournalCustomerServiceAPAC@elsevier.com.

Author inquiries: For inquiries relating to the submission of articles (including electronic submission where available), please visit this journal's homepage at <http://www.elsevier.com/locate/bbabio>. You can track accepted articles at <http://www.elsevier.com/trackarticle> and set up e-mail alerts to inform you of when an article's status has changed. Also accessible from here is information on copyright, frequently asked questions, and more. Contact details for questions arising after acceptance of an article, especially those relating to proofs, will be provided by the publisher.

Advertising information: If you are interested in advertising or other commercial opportunities please e-mail CommercialSales@elsevier.com and your enquiry will be passed to the correct person who will respond to you within 48 hours.

BIOENERGETICS

Executive Editors: Uli Brandt (Frankfurt, Germany)
Peter Brzezinski (Stockholm, Sweden)
Fabrice Rappaport (Paris, France)

Section Editors:

Suleyman Allakhverdiev (*Pushchino, Russia*)
Eva-Mari Aro (*Turku, Finland*)
Paolo Bernardi (*Padua, Italy*)
Martin D. Brand (*Novato, CA, USA*)
Richard Cogdell (*Glasgow, UK*)
Tom E. DeCoursey (*Chicago, IL, USA*)
Peter Dimroth (*Zurich, Switzerland*)
Jerzy Duszyński (*Warsaw, Poland*)
Masamitsu Futai (*Iwate, Japan*)
Marilyn Gunner (*New York, NY, USA*)
Andrew P. Halestrap (*Bristol, UK*)
Peter Heathcote (*London, UK*)
Jonathan Hosler (*Jackson, MS, USA*)
Carola Hunte (*Freiburg, Germany*)
Nils-Göran Larsson (*Köln, Germany*)
Bernard Lemire (*Edmonton, Canada*)
Fraser MacMillan (*Norwich, UK*)
Christopher C. Moser (*Philadelphia, PA, USA*)
Conrad Mullineaux (*London, UK*)
Richard K. Porter (*Dublin, Ireland*)
Marten H. Vos (*Palaiseau, France*)
Colin A. Wraight (*Urbana, IL, USA*)
Tom Wydrzynski (*Canberra, ACT, Australia*)

Keywords that indicate the expertise of each Editor can be found on the journal homepage at <http://www.elsevier.com/locate/bbabio>

Scientific Editors (Elsevier, Cambridge, MA, USA):

Amy Volpert
Laura Wallins
Denise M. Wells (Manager)



ELSEVIER

Amsterdam – Boston – London – New York – Oxford – Paris –
Philadelphia – San Diego – St. Louis