PROFESSOR SIR JOHN WALKER - CURRICULUM VITAE

***Date and Place of Birth*** 7th January 1941, Halifax, United Kingdom

***Nationality*** British

***Work Address*** Medical Research Council Mitochondrial Biology Unit

 University of Cambridge

 Cambridge Biomedical Campus

 Hills Road

 Cambridge CB2 0XY, U. K.

***Telephone Number*** 01223-252701

***Electronic Mail*** jew30@cam.ac.uk

***Career***

1969 M. A. and D. Phil. degrees from Oxford University

1969-1971 Postdoctoral Fellow at The School of Pharmacy, University of Wisconsin, Madison, U. S. A.

1971-1972 NATO Fellow at the CNRS, Gif-sur-Yvette, France

1972-1974 EMBO Fellow at the Institut Pasteur, Paris, France

1974-1982 Member of the Scientific Staff of The Medical Research Council’s Laboratory of Molecular Biology, Cambridge

1982-1987 Senior Scientist, M. R. C. Laboratory of Molecular Biology, Cambridge

1987-1998 Special Appointment (Professorial Grade)

 M. R. C. Laboratory of Molecular Biology, Cambridge

1998-2013 Director of The Medical Research Council’s Mitochondrial Biology Unit (previously the MRC Dunn Human Nutrition Unit), Cambridge

2013-present Director Emeritus and Research Group Leader, The Medical Research Council’s Mitochondrial Biology Unit, Cambridge Council’s Mitochondrial Biology Unit, University of Cambridge

# Honours and Awards

1959 A. T. Clay Gold Medal for academic distinction, Rastrick Grammar School

1983 Member of European Molecular Biology Organisation

1994 Johnson Foundation Prize, University of Pennsylvania Medical School, Philadelphia, U. S. A.

1995 Fellow of The Royal Society (F. R. S.), London

1995 Smith-Kline Beecham Visiting Professor to the U. S. A.

of The Royal Society of Medicine Foundation

1995 CIBA Medal and Prize of The Biochemical Society, London

1996 The Peter Mitchell Medal of the European Bioenergetics Congress

1997 The Gaetano Quagliariello Prize for Mitochondrial Research from the University of Bari, Italy

1997 Nobel Prize in Chemistry (jointly with P. D. Boyer and J. C. Skou)

1997 Fellow of Sidney Sussex College, Cambridge

1998 Member of The Academia Europaea

1998 Honorary Doctor of Science, Bradford University

1998 Honorary Member of The Biochemical Society

1998 Honorary Fellow of St. Catherine’s College, Oxford

1998 Founding Fellow of The Academy of Medical Sciences, London

1998 Honorary Doctor of Science, University of Buenos Aires, Argentina

1998 Honorary Doctor of Science, University of Huddersfield

1999 Knight Bachelor

1999 Foreign Member of The Royal Netherlands Academy of Arts and Sciences

1999 Honorary Doctor of Science, University of Manchester Institute of Science and Technology

1999 Honorary Doctor of Science, Oxford University

1999 Honorary Doctor of Science, Groningen University, The Netherlands

1999 Honorary Doctor of Science, University of Leeds

2000 Honorary Member of The British Biophysical Society

2000 Millennium Fellow of The Royal Society of Chemistry

2000 The Messel Medal of The Society of Chemistry and Industry

1. Honorary Professorship, Peking Union Medical College, Beijing, China
2. Honorary Fellowship of The Institute of Biology

2002 Honorary Doctor of Science, Royal Holloway College, University of London

2002 Professor of Molecular Bioenergetics, University of Cambridge

2003 Honorary Doctor of Science, University of Sussex

2003 Foreign member of L’Accademia Nazionale dei Lincei, Rome, Italy

2004 Foreign Associate of the National Academy of Sciences, U. S. A.

2004 2003 Royal Society of Chemistry Award for Biomembrane Chemistry

2004 JSPS Award for Eminent Scientists, Japanese Society for the Promotion of Science

2004 Honorary Doctor of Science, University of Liverpool

2006 Honorary Doctor of Science, University of East Anglia

2007 Honorary Doctor of Science and Professor, Moscow State University, Russia

2007 Doctor Honoris Causa, University Paul Sabatier, Toulouse, France

2007 Honorary Doctor of Science, Toyo University, Kawagoe, Japan

2008 Lifetime Achievement Award for the topic “Molecular mechanisms in mitochondrion and associated human diseases”. Awarded by GeneExpression Systems Inc, Waltham, Massachusetts, U. S. A.

2009 Fellow of the Science Museum, London

2009 Honorary Fellow, Society of Biology, London

2010 The Lee Kong Chian Distinguished Professor, Nanyang Technological University, Singapore

2010 The Ahmed Zewail Medal, Wayne State University, Detroit, Michigan, U. S. A.

2011 The Skou Award, Aarhus University, Aarhus, Denmark

2011 The Keilin Memorial Medal and Lecture of the Biochemical Society, U. K.

2011 The keys to the city of Bari, Italy

2011 The Gold Seal of the University of Bari Aldo Moro, Italy

2012 The Copley Medal of The Royal Society, London, U. K.

2012 Honorary Gentle Scientist of the Mitochondrial Physiology Society, Austria

2013 Visiting Professor, Division of Molecular Biosciences, Department of Life Sciences, Faculty of Natural Sciences, Imperial College London

2013 Honorary Fellow of The Royal Society of New Zealand

2013 Honorary Fellow of The Academy of Medical Sciences, London, U. K.

2015 Honorary Doctor of Science, KIIT University, Bhubaneswar, India

2019 Honorary Fellow, Cambridge Philosophical Society

2020 Honorary Doctor of Science, University of Cambridge

2021 Honorary Doctor of Science, Southern Methodist University, Texas U. S. A.

***Named Lectures***

1994 Nathan Kaplan Memorial Lecture, University of California at San Diego,

U. S. A.

1995 Novo-Nordisk Lecture, Copenhagen, Denmark

1995 The Krebs Lecture, Sheffield University, U. K.

1996 The CIBA Lecture, Biochemical Society, London

1996 The Peter Mitchell Lecture, EBEC Conference, Louvain, Belgium

1996 The Lecturer of the Year, The Netherlands Biochemical Society

1998 First Chiron Lecture, Marburg University, Germany

1998 The Inaugural Rodney Porter Lecture, Oxford University

1998 The Seventh Norman Heatley Lecture, Oxford University

1999 The Inaugural Albert Neuberger Memorial Lecture, The Hebrew University, Jerusalem, Israel

1999 The Inaugural John Kendrew Memorial Lecture, The Weizmann Institute, Rehovoth, Israel

1999 The FECS (Federation of European Chemical Societies) Lecture, IUPAC Meeting, Berlin, Germany

1999 The EMBO Lecture, Biochemical Society Meeting, Cork, Ireland

1999 The Eraldo Antonini Lecture, 44th Annual Congress of the Italian Biochemical Society, Sardinia, Italy

2000 The Eyring Lectures, University of Arizona, Phoenix, Arizona, U. S. A.

2000 The Messel Lecture of The Society of Chemistry and Industry

2000 The Kunio Yagi Lecture, The 18th IUBMB Meeting, Birmingham, U. K.

2000 The James Orten Lecture, Wayne State University, Detroit, U. S. A.

2000 The Jerry Weisbach Lecture, Rockefeller University, New York, U. S. A.

2000 The Third Zawicki Lecture, Rothamstead, U. K.

2001 Burroughs Wellcome Fund Lecture, University of Western Ontario, London, Canada

2001 The Varandani Memorial Lecture, Wright State University, Dayton, Ohio,

U. S. A.

2002 The Darwin Lecture Series 2002. 2nd lecture on “Power in the Cell”. Darwin College, Cambridge University, U. K.

2002 The Ada Doisy Lecture, University of Illinois, Urbana, U. S. A.

2002 The Chilton Foundation Lecture, University of Texas, Dallas, U. S. A.

2002 The Prichett Lecture, University of Birmingham, Alabama, U. S. A.

2003 The GlaxoSmithKline Placement Prize Lecture, University of Bath, U. K.

2003 Ceremonial Opening Lecture, Center for Membrane Proteomics, Johann Wolfgang Goethe-University, Frankfurt, Germany

2003 Clayton Foundation Lecture, University of Texas at Austin, Texas, U. S. A.

2003 Dean’s Distinguished Seminar Speaker, University of Colorado Health Science Center, Denver, Colorado, U. S. A.

2003 Georgi-Militzer Award Lecture, University of Nebraska, Lincoln, Nebraska, U. S. A.

2003 The Calbiochem Lectures, University of California at San Diego, California, U. S. A.

2004 The 17th John Colter Lecture, University of Edmonton, Alberta, Canada

2005 The Wills Lecture, Queen Mary, University of London, U. K.

2005 Lars Ernster Lecture on Bioenergetics, Department of Biochemistry and Biophysics, Stockholm University, Sweden

2006 The Royal Society of Chemistry Biomembrane Chemistry Award Lecture,

 London, U. K.

2006 The EMBO Nobel Lecture, Sheffield, U. K.

2006 Meeting to commemorate the 100th anniversity of the birth of Professor Alessandro Rossi Fanelli, Accademia Nazionale dei Lincei, Rome, Italy

2007 Harold Ackroyd Inaugural Memorial Lecture, Gonville and Caius College, Cambridge, U. K.

2007 Honorary Lecture for the 150th birthday of A. N. Bakh, Russian Academy of Sciences, Moscow, Russia

2007 Inaugural Maurice Wilkins Lecture, Maurice Wilkins Centre for Biodiscovery, Auckland, New Zealand

2007 EMBO Lecture Queenstown Molecular Biology Meeting, New Zealand

2008 MRC Lecture, American Society of Toxicology Meeting, Seattle, U. S. A.

2008 The Inaugural Baddiley Lecture, University of Newcastle Upon Tyne, U. K.

2009 Max Gruber Lecture, University of Groningen, The Netherlands

2009 The Ruysch Lecture, University of Amsterdam, The Netherlands

2010 The Lee Kong Chian Distinguished Lecture, Nanyang Technological University, Singapore

2010 The Connell Lecture, University of Toronto, Canada

2010 The Ernest Rutherford Lecture, Royal Society of Canada, Ottawa, Canada

2010 The Ahmed Zewail Lecture, Wayne State University, Detroit, Michigan,

U. S. A.

2011 The Skou Lecture, Aarhus University, Aarhus, Denmark

2011 UCLA Physiology Distinguished Lecturer, University of California, Los Angeles, U. S. A.

2011 Otto Wolff Lecture, UCL Institute of Child Health, London, U. K.

2012 The Keilin Memorial Lecture of the Biochemical Society, U. K.

2012 The EMBO Lecture, International Conference to Celebrate the Centennial of X-ray Diffraction, Palazzo Corsini, Rome, Italy

2012 The EMBO Lecture, ‘Signaling from Molecules to Cells to Organisms’, Symposium in honour of Professor Angelo Azzi, University of Rome, Italy

2012 The Cornforth Lecture, ‘Biological machines with rotary motors’, University of Sussex, U. K.

2012 The 2012 Ernst Chain Lecture, ‘The Fuel of Life’, Imperial College, London, U. K.

2013 MIP 2013 Keynote Lecture, Comparative Mitochondrial Physiology Conference, Obergurgl, Austria

2013 **Fourth Hans Krebs Memorial Lecture.** Department of Molecular Biology and Biotechnology, Sheffield, U. K.

2013 Plenary Lecture, Cardiff University’s Distinguished Lecture Series, Cardiff School of Biosciences, U. K.

2014 Tercentenary Lecture, Trinity College Biomedical Science Institute, Dublin, Ireland

2014 Public Lecture, Institute of Integrative Biology, University of Liverpool, U. K.

2014 Public Lecture, Inauguration of IBBTEC, University of Santander, Spain

2015 Colin A. Wraight Memorial Lecture, University of Illinois, Urbana, U. S. A.

2015 The J B S Haldane Lecture, KIIT University, Bhubaneswar, India

2015 Public Lecture, in memory of Professor Steven Baldwin, Leeds University, Leeds, U. K.

2016 The Ruysch Lecture, the E C Slater Memorial Symposium, University of Amsterdam, The Netherlands.

2017 Plenary Lecture, First International GIBB Meeting (Gruppo Italiano di Biomembrane e Bioenergetica), Universita di Catania, Sicily.

2017 The AMGEN Lecture, 4th ShanghaiTech-SIAIS Bioforum, Shanghai, China.

2019 The 2019 Honorary Fellows Prize Lecture, Cambridge Philosophical Society

2020 The Oon Lecture (joint with P Chinnery) Downing College, Cambridge

**Other Lectures**

6 October 1998 Oncology Department, Addenbrooke’s Hospital, Cambridge, U. K.

9 October 1998 School of Clinical Medicine, University of Cambridge, U.K.

23-26 October 1998 FASEB Workshop on “Phosphoryl Transfer: A Molecular Basis for Signalling”, Lake Tahoe, California, U. S. A.

30 October 1998 Department of Molecular Biology, UCLA, Los Angeles, California, U. S. A.

24 November 1998 School of Biological Science, University of Sussex, U. K.

27 November 1998 Institute for Protein Research, Osaka, Japan.

29 November 1998 Institute for Advanced Research, Matsushita Electric Industrial Co. Ltd., Nara, Japan.

3 December 1998 10th Anniversary Meeting of HFSP, Tokyo, Japan.

9 February 1999 The 24th Annual Lorne Conference, Lorne, Victoria, Australia.

16 August 1999 The Federation of European Chemical Societies IUPAC Meeting, Berlin, Germany.

8 September 1999 Millennium Symposium, Sidney Sussex College, Cambridge, U. K.

16 September 1999 British Association Festival of Science, University of Sheffield, U.K.

14 October 1999 31st Annual Meeting of Swiss Society for Genetics and Experimental Biology, Basel, Switzerland

18 October 1999 Giovanni Armenise-Harvard Foundation Symposium, Rome, Italy.

5 November 1999 Biochemistry Department, Imperial College, London, U. K.

20 November 1999 Juan March Foundation Meeting on “Helicases as Molecular Motors”, Madrid, Spain

12 February 2000 Biophysical Society Meeting, New Orleans, U. S. A.

22 February 2000 Gordon Conference: “Protons”, Ventura, California, U. S. A.

29 March 2000 “Proteins 2000”. 219th Meeting of the American Chemical Society, San Francisco, U. S. A.

8 May 2000 Royal Society of Chemistry Annual Conference on “The Age of the Molecule”, UMIST, Manchester, U. K.

23 May 2000 45th Anniversary of Kitagawa Industries, Tokyo, Japan.

24 May 2000 Sinshu University, Nagano, Japan.

9 June 2000 The 18th Sigrid Juselius International Conference, Helsinki, Finland.

11 July 2000 Opening Lecture, Unilever Colworth Biosciences, Colworth, U. K.

22 August 2000 Murikka Summer School, University of Tampere, Finland.

26 August 2000 European Crystallography Meeting 19, Nancy, France.

4 September 2000 Krebs Institute, University of Sheffield, U. K.

14 September 2000 European Bioenergetics Conference 2000, Brighton, U. K.

27 September 2000 Symposium on “Ion Coupled Vectorial Processes in Biology”, Dusseldorf, Germany.

2 October 2000 “Molecular Mechanisms”, The Whitehead Institute Symposium, MIT, Boston, U. S. A.

16 October 2000 Opening Lecture of Structural Biology Cleveland, Case Western Reserve University, Cleveland, Ohio, U. S. A.

19 October 2000 City College, New York, U. S. A.

16 November 2000 Bloomsbury Dining Club, Royal Free and University College Medical School, University College, London, U. K.

13 February 2001 Juan March Meeting on “Pumps, Channel and Transporters: Structure and Function”, Madrid, Spain.

23 February 2001 MRC Toxicology Unit, University of Leicester, U. K.

19 April 2001 4th European Meeting of the Protein Society, Paris, France.

16 May 2001 Department of Chemistry, University of York, U. K.

7 June 2001 Zentrum für Molekulaire Biologie Colloquium, Heidelberg, Germany.

20 June 2001 Gordon Conference on “Bioenergetics”, Meriden, NH, U.S.A.

4September, 2001 Neuroscience for Clinicians, Jesus College, Cambridge,

U. K.

5-9 September 2001 Conference on “Molecular Structural Biology”, Vienna, Austria.

9-12 September 2001 Gesellschaft für Biochemie und Molekularbiologie, Bochum, Germany.

10 October 2001 Cubist Pharmaceuticals, Lexington, MA, U. S. A.

28 October 2001 Biotechnology Conference, Genoa, Italy.

6 November 2001 Chinese Academy of Medical Sciences, Beijing, China.

19 November 2001 “Science at Sidney”, Sidney Sussex College, Cambridge, U. K.

28 November 2001 Cardiff Scientific Society, Cardiff, U. K.

5 December 2001 Nobel Jubilee Symposium “Frontiers of Molecular Sciences”, Orundsbrö, Sweden.

7 December 2001 “Biological Systems”, Nobel Centennial Meeting, Stockholm, Sweden.

13 February 2002 The Nutrition Society, The Institute of Child Health, London, U. K.

25 February 2002 The U. S. A. National Academy of Sciences, Washington DC, U. S. A.

4 March 2002 Max Planck Institute of Biophysics, Frankfürt, Germany.

12 March 2002 Merck Sharp & Dohme Neuroscience Centre, Harlow, Essex, U. K.

20 March 2002 Colloquium to celebrate “The Operon, mRNA and Allostery”, Pasteur Institute, Paris, France.

18 April 2002 The Department of Biological Sciences, Southern Methodist University, Dallas, Texas, U. S. A.

14 May 2002 Center for Molecular Medicine Seminar, Emory University, Atlanta, Georgia, U. S. A.

18 May 2002 Matti Saraste Memorial Symposium, EMBL, Heidelberg, Germany.

22 May 2002 School of Animal and Microbial Sciences, University of Reading, U. K.

10 June 2002 MRC-Laboratory of Molecular Biology, Cambridge, U. K.

17 June 2002 University of Groningen, The Netherlands.

26 June 2002 European Life Sciences Organization Conference 2002, Nice, France.

2 July 2002 European Life Sciences Organization Conference 2002, Nice, France.

20 August 2002 Sixteenth Symposium of the Protein Society, San Diego, California, U. S. A.

11 September 2002 12th European Bioenergetics Conference, Arcachon, France.

19 September 2002 Society for Medicines Research & Royal Society of Chemistry, London, U. K.

22 October 2002 Opening Lecture Unidad de Biofisica, University of Bilbao, Spain.

27 November 2002 The New Zealand Biochemical Society, University of Canterbury, Christchurch, New Zealand.

5 December 2002 Vienna Biocenter, Austria.

28 January 2003 Trinity College Science Society, Cambridge, U. K.

14 February 2003 Aventis Pharmaceuticals, Frankfürt, Germany.

17 February 2003 The Student Biochemical Society, University of Oxford,

U. K.

25 February 2003 Gordon Conference on “Protons”, Ventura, California,

U. S. A.

9 May 2003 Skirball Institute, New York University Medical Center, New York, U. S. A.

21 May 2003 Department of Chemistry & Molecular Biology, University College, London, U. K.

10 June 2003 University of Zürich, Switzerland.

23 June 2003 Bioenergetics Gordon Conference, Kimball Union Academy, Meriden, NH, U. S. A.

7 July 2003 HFSP Awardees’ Meeting, Cambridge, U. K.

23 August 2003 Nobel Symposium on “Membrane proteins: structure, function and assembly, Friiberghs Herrgård, Sweden.

29 August 2003 Harden Conference on “Biological electron and proton transfer”, University of Plymouth, U. K.

23 September 2003 Director’s Colloquium, University of Helsinki, Finland.

4 November 2003 Catalyst Events - Graduate Chemical Society, St John’s College, Oxford, U. K.

13 November 2003 Universita ‘La Sapienza’, Rome, Italy.

23 January 2004 Isaac Newton Trust, Cambridge, U. K.

5 February, 2004 University of Oslo, Norway.

17 February 2004 The Max Planck Institute of Biochemistry, Munich, Germany.

24 February 2004 Trinity College Science Society, Trinity College, Cambridge, U. K.

3 March 2004 Department of Pharmaceutical & Biological Chemistry, School of Pharmacy, University of London, U. K.

4 May 2004 Howard Hughes Medical Institute, Chevy Chase, Maryland, U. S. A.

1 July 2004 University Medical Center, Nijmegen, The Netherlands

12-13 August 2004 Imperial College, London, U. K.

18-21 August 2004 Wenner-Gren Center, Stockholm, Sweden

21-26 August 2004 13th European Bioenergetics Conference, Pisa, Italy

7 September 2004 Syngenta Crop Protection Research, Basel, Switzerland

17 September 2004 Department of Chemistry, University of Cambridge, U. K.

22 October 2004 Walter Mackenzie Health Sciences Center, University of Edmonton, Alberta, Canada

14 November 2004 2nd International Symposium on Bioscience and Nanotechnology, Tokyo University, Japan

16 November 2004 Tokyo Institute of Technology, Yokohama, Japan

9 February 2005 Queen Mary, University of London, U. K.

14 February 2005 Purpan Hospital, Toulouse INSERM, Toulouse, France

15 March 2005 Cambridge University, Cambridge Institute of Medical Research, Hinxton Hall, Cambridge, U. K.

23 March 2005 1st Joint German-British Bioenergetics Meeting, ‘Proteins: structure and beyond’. Wiesbaden, Germany

2 April 2005 Mosbach Colloquium of the German Society for Biochemistry and Molecular Biology, Mosbach Conference Centre, Germany

2 May 2005 National Academy of Sciences, Washington DC, U. S. A.

9 June 2005 Sigrid Juselius Foundation, Jubilee Symposium, Helsinki, Finland

12 September 2005 XXVIII National Congress of the Spanish Biochemical Society, Zaragoza, Spain

26- 29 September 2005 ‘Mitochondrial DNA Transactions in Health and Disease’, Howard Hughes Medical Institute, Chevy Chase, Maryland, U. S. A.

6-7 October 2005 FinBioNet PhD student symposium, Ellivuori, Finland

24 October 2005 Department of Biochemistry, University of Bristol, U. K.

3 November 2005 Helsinki Biotechnology Institute, University of Helsinki, Finland

18 November 2005 University of Cambridge Department of Medicine Research Day at Hinxton Hall, Cambridge, U. K.

17-21 December 2005 Mitochondrial Bioenergetics: from Molecular Insight to Physiopathology’, University of Bari, Italy

10 May 2006 ‘Energy in biology and medicine’, Hills Road Sixth Form College, Cambridge, U. K.

15-16 May 2006 E-Mep General Assembly, Cambridge, U. K.

5 June 2006 ‘The mitochondrion: mules, motors and merry-go-rounds’, Cambridge University Biological Society, U. K.

11-16 June 2006 ‘Interactions between the static and rotating elements of ATP synthase’, 2006 Molecular and Cellular Bioenergetics Gordon Conference, Proctor Academy, Andover, New Hampshire, U. S. A.

23 June 2006 ‘Unravelling energy conversion in mitochondria’, Conseil Pasteur-Weizman Symposium on Structural Biology, L’ Institut Pasteur, Paris, France

26 June 2006 ‘Energy transduction in mitochondria’, Council for the Lindau Nobel Laureate Meetings, Lindau, Germany

22-27 July 2006 ‘The structure and function of ATP synthase’, 14th European Bioenergetics Conference, Moscow, Russia

4-8 September 2006 ‘Biological Motors’, BA Festival of Science, University of East Anglia, Norwich, U. K.

26 October 2006 ‘Biomolecular rotary motors’, Launch of the Manchester Interdisciplinary Biocentre, University of Manchester,

U. K.

28 November 2006 “Unravelling energy conversion in mitochondria”, Institute of Molecular Medicine, University of Leeds, U. K.

25 April 2007 ‘Energy conversion in biology’, National Institutes of Health, Bethesda, Maryland, U. S. A.

11 June 2007 “Catalytic mechanism and regulation of F-ATPases”, FASEB Conference, Saxtons River, Vermont, U. S. A.

18 June 2007 “Inhibitors of ATPase as an aid to understanding function”, Gordon Research Conference, Andover, New Hampshire, U. S. A.

14 July 2007 6th European Biophysics Congress, Imperial College, London, U. K.

3 September 2007 ‘Rotary machines in biology’, Lincoln University, Canterbury, New Zealand

10 September 2007 ‘F-ATPases and P-loops’, Biochemical Society Independent Meeting, Royal Agricultural College, Cirencester, U. K.

22 November 2007 Energy conversion in biology’, National Institute for Medical Research, London, U. K.

5 December 2007 21st Century’s Centre of Excellence, Bio-Nano Electronics Research Centre, Tokyo University, Japan

13 March 2008 ‘Structural analysis of supramolecular assemblies by hybrid methods’, Keystone meeting, Granlibakken conference centre, Lake Tahoe, U. S. A.

1 April 2008 University of St. Andrews, U. K.

3 April 2008 2nd Joint German/UK Bioenergetics Conference, University of Edinburgh, U. K.

30 April 2008 Oxford University Scientific Society, Oxford, U. K.

8 May 2008 8th May Meeting ‘Frontiers in Interdisciplinary Biomedical Research in the XX1 Century’, Barcelona, Spain

19 May 2008 Monday Lecture, Viikki Science Centre, University of Helsinki, Finland

6 June 2008 40th anniversary meeting, University of Aarhus, Denmark

20 July 2008 European Bioenergetics Conference 2008, Trinity College, Dublin, Ireland

22 September 2008 Chemistry in the New Work of Bioengineering and Synthetic Biology, Saïd Business School, Oxford, U. K.

8 October 2008 The Basel Seminar on Peptides, Proteins and Proteomics, Basel, Switzerland

23 October 2008 5th Nestlé International Nutrition Symposium on ‘Nutrition and Performance’, Lausanne, Switzerland

3 November 2008 MicroRNAs Europe – 2008 Meeting, Peterhouse, Cambridge, U. K.

18 November 2008 Oxford University Scientific Society, Inorganic Chemistry Laboratory, South Parks Road, Oxford, U. K.

19 December 2008 Biochemical Society Bioenergetics Meeting 2008, Biochemistry Department, University of Cambridge, U. K.

27 January 2009 Toxicology Forum, Washington D. C., U. S. A.

22-29 February 2009 Gordon Research Conference Protons & Membrane Reactions, Ventura, U. S. A.

17 April 2009 Department of Neurological Sciences, University of Bologna, Italy

22 April 2009 Attardi Day, University of Padova, Italy

27 April 2009 Royal Netherlands Academy of Science, Amsterdam, The Netherlands

25 June 2009 NIH/Oxford/Cambridge - Graduate Partnerships Programme, University of Oxford, U. K.

5 September 2009 2nd Tiselius Symposium on Horizons in Biochemistry, Biomedical Centre, University of Uppsala, Sweden

28 September 2009 International Conference on Biomolecular Science, in honour of the 75th anniversary of the birth of Professor Yuri Ovchinnikov, Moscow, Russia

6-7 December 2009 Combio 2009, University of Canterbury, Christchurch, New Zealand.

14 January 2010 GlaxoSmithKline, Tres Cantos, Spain

26 January 2010 Rosalind Franklin University of Medicine & Science, Chicago, U. S. A.

28 January 2010 University of Pennsylvania, Philadelphia, U. S. A.

9 February 2010 Institute of Organic Chemistry and Biochemistry, The Academy of Sciences of the Czech Republic, Prague

4 March 2010 GlaxoSmithKline, Tres Cantos, Spain

25 March 2010 Centre for Research in the Arts, Social Sciences and Humanities (CRASSH), Cambridge, U. K.

31 March 2010 Mini-symposium to celebrate the 90th Birthday of Georges Cohen, Paris, France

15 April 2010 University of Stockholm, Sweden

12 May 2010 University of York, U. K.

27 June 2010 Federation of European Biochemical Societies (FEBS) Congress, Gothenburg, Sweden

30 June 2010 60th Meeting of Nobel Laureates and 3rd Interdisciplinary Meeting, Lindau, Germany

7-22 July 2010 European Bioenergetics Conference 2010, Warsaw, Poland.

23 August 2010 15th International Congress on Photosynthesis, Beijing, China

16 October 2010 Latymer Upper School, London, U. K.

8 November 2010 Imperial College, London, U. K.

19 January 2011 Biochemistry Department, University of Cambridge, U. K.

22 January 2011 Tri-ennial dinner of the Sidney Sussex College Medical and Veterinary Society, University of Cambridge, U. K.

24 January 2011 Cambridge University Biological Society, Cambridge,

U. K.

15 February 2011 The Oxford Chinese Students and Scholars Association (OXCSSA), University of Oxford, U. K.

1 March 2011 The Darwin Society, University of Cambridge, U. K.

7 March 2011 The 23rd Cambridge Neuroscience Seminar: from eponym and acronym to mechanistic taxonomy, University of Cambridge, U. K.

9-10 March 2011 The Fifth Mitsui Chemicals International Symposium on Catalysis Science (MICS2011), Chiba, Japan

17 May 2011 University of Zürich Institute of Molecular Life Sciences, Zürich, Switzerland

22 May 2011 The IXth European Symposium of The Protein Society, Stockholm, Sweden

3 June 2011 ‘Britton Chance: His Life, Times & Legacy’, memorial symposium, University of Pennsylvania, Philadelphia,

U. S. A.

24 June 2011 National Institutes of Health, Bethesda, Maryland, U. S. A.

30 June 2011 Gordon Conference on “Bioenergetics”, Andover, New Hampshire, U. S. A.

30 October 2011 Special Symposium of Nobel and Kavli Laureates, Academy of Military Medical Sciences, Bejing, China.

30 Oct – 3 Nov 2011 17th International Biophysics Congress, Beijing, China

30 January 2012 Rastrick High School, Yorkshire, U. K.

6-10 March 2012 4th JSPS HOPE Meeting, Tsukuba, Japan

22-25 March 2012 International Conference on the Occasion of the 75th Anniversary of Albert Szent-György’s Nobel Prize Award, University of Szeged, Hungary

3-4 May 2012 Theo Murphy International Scientific Meeting on ‘Structure and dynamics of the thylakoid membrane’, Kavli Royal Society International Centre, Chicheley Hall, Buckinghamshire, U. K.

11-14 June 2012 2nd International Workshop on ‘National and Artificial Photosynthesis, Bioenergetics and Sustainability’, NEC/ Nanyang Technical University, Singapore

27 June 2012 Scuola Normale Superiore, Pisa, Italy

3- 4 July 2012 International Congress of the Spanish Biophysical Society (SBE), Barcelona, Spain

10 July 2012 FEBS Workshop/Mitochondrial Physiology Society (MiP) Summer School, Trinity Hall, Cambridge, U. K.

14 September 2012 Freiburg Institute of Advanced Studies (FRIAS), Freiburg, Germany

14-20 September 2012 European Bioenergetics Conference 2012, Freiburg, Germany

16 October 2012 National Biology Week, University of Cambridge, U. K.

10-13 April 2013 3rd Germany/UK Conference on Bioenergetics (DUKBEC), Marburg, Germany

14-17 May 2013 EMBO Conference on ‘Allosteric interactions in cell signalling and regulation’, Paris, France

5-9 June 2013 International meeting "Photosynthesis Research for Sustainability - 2013" Baku, Azerbaijan

23-28 June 2013 Gordon Conference on Bioenergetics: Molecular Mechanisms and Fundament Principles to Cellular Energetics in Health and Disease. Proctor Academy, Andover, NH, U. S. A.

29 June-6 July 2013 63rd Lindau Nobel Laureate Meeting, Lindau, Germany

3 September 2013 The Biomedicum Helsinki University, Finland

4-8 November 2013 Keynote Lecture, International Symposium on Mitochondria, Japanese Society of Mitochondrial Research and Medicine, Tokyo, Japan

13-14 November 2013 Plenary Lecture, Cardiff University’s Distinguished Lecture Series, Cardiff School of Biosciences, U. K.

26-27 November 2013 Lecture, 10th Workshop in Proteins - Danish Technical University, Copenhagen, Denmark

20-21 March 2013 Lecture, Department of Physiology at UCLA, Los Angeles, U. S. A.

23-28 March 2014 Lecture, Gordon Research Conference Ligand Recognition and Molecular Gating Ventura Beach, CA, U. S. A.

30-31 May 2014 Lecture, “KSU International Symposium: Cutting-edge of Life Sciences”, Department of Molecular Biosciences, Kyoto Sangyo University, Japan

2-3 June 2014 Keynote Lecture, Tokyo ATPase Workshop 2014, The University of Tokyo, Japan

11-14 June 2014 Lecture, 3rd International Workshop on Solar Energy for Sustainability in Honour of the 70th Birthday of Michael Graetzel, Singapore

29 June- 4 July 2014 64th Lindau Nobel Laureate Meeting, Lindau, Germany

9 July 2014 Plenary Lecture, Biannual British Biophysical Society Conference, Warwick University, Warwickshire, U. K.

13-17 July 2014 European Bioenergetics Conference 2014, Faculdade de Ciências da Universidade de Lisboa, Lisbon, Portugal

15-19 September 2014 11th Anniversary Symposium, Horizons in Molecular Biology, Max Planck Institute, Gottingen, Germany

11 December 2014 British Biophysical Society, School of Oriental Studies and African Studies, London, U. K.

30 January 2015 “Biological Energy”: Hills Road Sixth Form College Cambridge, U. K.

25 February 2015 Cambridge University Biological Society, Plant Sciences Theatre, Downing Street, Cambridge, U. K.

9-13 June 2015 Paolo Foundation Symposium, Helsinki, Finland

22-26 June 2015 Gordon Research Conference in Bioenergetics, Proctor Academy, Andover, NH, U. S. A

16 September 2015 Address to prospective Cambridge applicants from schools in East Lancashire, St John’s College, Cambridge, U. K.

21 September 2015 Seminar, Department of Biochemistry, Oxford, U. K.

8-11 October 2015 The Colin A. Wraight Memorial Lecture, “The missing link in respiration: how protons drive rotation in ATP synthesis" Department of Biochemistry, Illinois University, Urbana, Illinois, U. S. A.

5 November 2015 INSPIRE Lecture to 300 high school students, School of Biotechnology, KIIT University, Bhubaneswar, India

7 November 2015 Address to the Annual Convocation of KIIT University, Bhubaneswar, India

11 November 2015 Keynote Lecture, “Science as the Basis for Wealth Creation”, 375th Anniversary of the University of Helsinki, FinlandChallenge Award Gala

16 December 2015 Distinguished Speaker, Meeting, in Memory of Professor S. Baldwin, Leeds University, U. K.

10-15 January 2016 50th Winterseminar, Klosters. Switzerland

22 February 2016 Hills Road Sixth Form College, Cambridge, U. K.

7 March 2016 Landmark Lecture Series, Department of Biochemistry, Cambridge, U. K.

19-25 March 2016 4th International Workshop on Solar Energy Sustainability,

NTU, Singapore

4-6 April 2016 Keynote Speaker, Gap Summit International Biotechnology Conference, Cambridge, U. K.

2-7 July 2016 Lecture. “Structure and Mechanism of ATP Synthase”, European Bioenergetics Conference 2016, Riva del Garda, Italy

25 August 2016 BCA/CCP4 Crystallography Summer School, Diamond Science and Technology Centre, Harwell, Oxford, U. K.

14 September 2016 Outreach Event for Sixth Form Pupils from Lancashire, The Divinity School, St John’s College, Cambridge, U. K.

17 October 2016 School of Biochemistry, Bristol University, Bristol, U. K.

24 October 2016 International Student Symposium, Dortmund University, Dortmund, Germany

17 October 2016 School of Biochemistry, Bristol University, Bristol, U. K.

24 October 2016 International Student Symposium, Dortmund University, Dortmund, Germany.

31 January 2017 Lecture, “Bioenergetics of the mitochondrion”. Student Chemical Society, Imperial College, London

7 February 2017 Part III Biochemistry Class in Bioenergetics, Department of Biochemistry, University of Cambridge

22 February 2017 Lecture, “Energy in Biology”, The Leys School, Cambridge, U. K.

16 May 2017 Lecture, “The Role of ATP Synthase in Cellular Life and Death”. Scientific Symposium: Proteins, the Molecular Machines of Life, Department of Sciences, Roma Tre University, Rome, Italy

2-9 June 2017 Lecture. “Structure, mechanism and regulation of ATP synthase”. Gordon Research Conference on Bioenergetics, Proctor Academy, New Hampshire, U. S. A.

13 June 2017 Lecture, “Where does biological energy come from?”, Scuola Superiore di Catania, Sicily.

15 June 2017 Lecture, “The Mitochondrial Respiratory Chain from 1978-2017: A Triumph for Biochemistry and Biophysics”. Italian Biochemical Society, Catania, Sicily

26-30 June 2017 Lecture, “The ATP Synthase in Cellular Life and Death”. 67th Lindau Nobel Laureate Meeting, dedicated to Chemistry, Lindau, Germany

28 October 2017 Lecture “The Future of Scientific Research” to Graduate Students, Sir William Dunn School of Pathology, University of Oxford

16 November 2017 The Amgen Lecture, “The Mitochondrial Respiratory Chain from 1978-2017: A Triumph for Biochemistry and Biophysics”. 4th ShanghaiTech-SIAIS Bioforum, Shanghai, China

8 December 2017 Lecture, “Understanding the membrane domain of ATP synthase”. Bunty Bioenergetics Meeting, Imperial College, London, U. K.

26 January 2018 Speech and demonstration of oxygen evolution during photosynthesis, St Mary’s Junior School, Hackney, London, U. K.

6 February 2018 Class on “The Scientific Method” to Part III students in Biochemistry, University of Cambridge, U. K.

14 February 2018 Class on “Bioenergetics”, Ph D students, MRC Mitochondrial Biology Unit, Cambridge, U. K.

15 February 2018 Lecture “Discovering ATP synthase” at The Biology Society, St John’s College, Cambridge, U. K.

1-10 March 2018 Lecture "Pores and Channels in the ATP Synthase in Mitochondria". GRC Conference, Ligand Recognition & Molecular Gating, Ventura, CA. U. S. A.

18-24 March 2018 Lecture "Pores and Channels in the ATP Synthase in Mitochondria" at the 5th International Workshop on Solar Energy for Sustainability, Nanyang University, Singapore

9 May 2018 Lecture "Pores and Channels in the ATP Synthase in Mitochondria”. The Biomedical Research Centre, University of East Anglia, Norwich, U. K.

24-29 June 2018 68th Lindau Nobel Laureate Conference dedicated to Physiology and Medicine. Agora Lecture on “Microbial Drug Resistance".

25-30 August 2018 Lecture “ATP Synthase: Structure, Regulation” and Assembly” and participant in Round Table Discussion on “The Permeability Transition Pore”. 20th European Bioenergetics Conference, Budapest, Hungary.

6 September 2018 Lecture “Yeast and Mammalian ATP Synthases”. 36th Small Meeting on Yeast Transport and Energetics. Martina Franca, Italy."

18 October 2022 Lecture "Citrin Deficiency and the Citrin Foundation". Meeting on Ureagenesis Valencia, Spain.

28 June 2023 72nd Lindau Nobel Laureate Conference dedicated to Physiology and Medicine. Agora Lecture on "Citrin deficiency: a defect in the Urea Cycle".

26 April 2024 Memorial meeting for Mårten Wikström, Helsinki, Finland.

 Lecture "Mårten Wikström - A historical perspective of his contributions to oxidative phosphorylation"

3 July 2024 The Eraldo Antonini Lecture, FEBS Congress, Milan "The rotary mechanism of ATP synthase: how it is regulated and influences assembly".

26 September 2024 European Bioenergetics Conference, Innsbruck, Austria.

 1. " Mårten Wikström - A historical perspective of his contributions to oxidative phosphorylation"

 2. "The assembly of ATP synthase"

31 October 2024 Lecture. Natural Sciences Society, Trinity Hall, Cambridge

 "It sounds like a life sentence".

***Professional Activities and Associations***

1972-1998 Member of the Biochemical Society

1981-1987 Member of the Editorial Board of “The Biochemical Journal”

1986-1986 Member of the Editorial Board of “Biochemistry International”

1987-1991 Member Editorial Board of “Molecular Microbiology”

1989-2001 Deputy Editor of “DNA Sequence”

1989-1999 Member of The Scientific Advisory Board of

 The E. C. Slater Institute, the University of Amsterdam, The Netherlands

1991-present Member Editorial Board of “Journal of Bioenergetics”

1993-present Member Editorial Board of “Structure”

1994-2002 Member of The Scientific Advisory Board of The Groningen

Biomolecular Sciences and Biotechnology Institute,

University of Groningen, The Netherlands

1997-2009 Honorary Member of The Department of Biochemistry, University of Oxford, U. K.

1997-2000 Member of the Molecular and Cellular Medicine Board of The Medical Research Council, U. K.

2000-2010 Member Editorial Board of “Chembiochem”

2000-2002 Founder and Vice Chairman of Avidis SA

2000-2002 Member of the Review Panel of The Medical Research Council Protein Phosphorylation Unit, University of Dundee, for The Medical Research Council, U. K.

2000-2010 Member of The Scientific Advisory Board of Senetek Plc

2000-2003 Member of The Scientific Advisory Board of Pyrosequencing AB, Sweden

2001-2017 Member of The Scientific Advisory Board of the Institute of Biotechnology, University of Helsinki, Finland.

2001-2002 Elector of the Chair of Chemical Biology, University of Oxford, U. K.

2001-2003 Member of the Scientific Council of the Juan March Foundation, Madrid, Spain

2002 Member of the Review Committee of the Biology Department, ETH, Zürich, Switzerland.

2002-2003 Elector of the Whitley Chair of Biochemistry, University of Oxford, Oxford, U. K.

2002-2016 Member of the Scientific Advisory Board of HK Pharmaceuticals Inc, U. S. A.

2002-present Trustee, Edward Penley Abraham Cephalosporin Fund, Oxford, U. K.

2002-2018 Member of the Awards Committee of the Biochemical Society, London, U. K.

2003-2010 Member of The Scientific Advisory Board of the Max Planck Institute for Biochemistry, Martinsried, Germany.

2003 and 2004 Judge of The Wolf Prize in Medicine, Israel.

2004-2008 Joint Chair (with Hartmut Michel) of the EU Project EMEP (European Membrane Protein Consortium).

2004 Judge of the International Feltrinelli Prize in Science, L’Accademia Nazionale dei Lincei, Rome, Italy.

2004 Advisor to Howard Hughes Medical Institute concerning Janelia Farm Research Campus, Chevy Chase, MD, U. S. A.

2005 Member of the Review Committee, External Review of Biomedicine, University College, London, U. K.

2005 Member of the Review Panel of The Medical Research Council Protein Phosphorylation Unit, University of Dundee, for The Medical Research Council, U. K.

2006 Elector of the David Phillips Chair of Biophysics, University of Oxford, U. K.

2006-2010 Member, Scientific Advisory Board of MitoSciences Inc.

2006-2010 Chair, Scientific Advisory Board, Manchester Interdisciplinary Biocentre, Manchester, U. K.

2007 Member of the Review Panel of The John Curtin School of Medical Research 2007 Scientific Review, Canberra, Australia.

2007 Chair of The University of Oulu Research Assessment Exercise for Biochemistry, Biology and Biotechnology, Finland.

2008-2012 Chair of the EU Project EDICT (European Drug Initiative on Channels and Transporters).

2009-present Founding Member, European Research Institute for Integrated Cellular Pathology (ERI-ICP), Paris, France

2010-2018 Member of the Interface Editorial Board of The Royal Society, London, U. K.

2010-present Member of the International Advisory Board of Shanghai Institute of Biochemistry and Cell Biology (SIBCB), Chinese Academy of Sciences, Shanghai, P. R. China

2010-present Member of the UK-Israel Council for Life Sciences, Tel Aviv, Israel

2010 Chair, 2011 Dan David Prize Committee, Tel Aviv University, Israel

2010-present Member of the International Advisory Board, Federation of European Biochemical Societies (FEBS)

2018-present Member of the Council of The Paul Ehrlich Foundation for award of the annual Paul Ehrlich and Ludwig Darmstaedter Prize in Medicine

2018-present Member of Scientific Advisory Board of Chromadex, Irvine, CA 92618, U. S. A.

2018-present Special Scientific Advisor and Chair Of Scientific Supervisory Board of the Citrin Foundation, Singapore

2019-present Member of Scientific Advisory Board of Pretzel Therapeutics

***Ph D Students*** (University of Cambridge unless indicated otherwise)

Nicholas Gay

Victor Tybulewicz

Ian Fearnley

Alison Cozens

Mark Dyer

Simon Medd

Mark Skehel

Stephanie Pilkington

Mark van Raaij

Ian Collinson

George Orriss

Clyde Gibbons

John Rubinstein

Vernon Smith

Ruming Chen

Reiko Kagawa

Jocelyn Silvester

Jonathan Gledhill

Veronica Dickson

Fiona Kellas

Matthew Bowler

Rumin Chen

David Rees

John Bason

Derek Narendra\*

Graham Robinson

Corsten James

Paula Wilks

Joel Meyerson

Byron Andrews

Dan Pennington

Thomas Walpole

Tom Charlesworth

Anna Duncan

Holly Ford

Alice Zhang

Tobias Spikes

\* Supervised jointly with Richard Youle, NIH, Bethesda, USA

***M Phil Students*** (University of Cambridge)

Matthew Altman

Jenny Lee

Bianca Flores

***Cambridge Part III Student***

Vytaute Boreikaite

***Post-Doctoral Associates***

Nicholas Gay

Victor Tybulewicz

Gunnar Falk

Maria Hollemans

Matti Saraste

Alex Eberle

Annie Hampe

Marsha Kostina

Pål Nyrén

Octavi Viñas

Alison Cousins

Faustino Bisaccia

Vito Iacobazzi

René Lutter

Rose Todd

Stephanie Pilkington

Alain Dupuis

Jesus Arizmendi

Giuseppe Fiermonte

Moshe Finel

Susan Buchanan

Tomas Lundquist

Rieky Van Walraven

Bruno Miroux

Vincenza Dolce

Gerhard Groth

Luigi Palmieri

Jan Pieter Abrahams

Y Shirakihara

Kerstin Braig

Simone Karasch

Daniela Stock

Phil Jones

John Rubinstein

Rodrigo Carbajo

Leonid Sazanov

Elena Cabezon

Iñaki Arechaga

Ian Menz

Laurent Michel

Sidong Liu

Lucy Forest

Natalie Glavas

Takeshi Murata

Jiuyha He

Stefan Bartochek

Virginie Rhein

Edgar Morales-Rios

Scott Ferguson

Ondrej Gahura

Jessica Petri

Tobias Spikes

***MRC Senior Scientist Associates***

Fred Northrop

Michael Runswick

Steve Powell

Ian Fearnley

Mark Skehel

Martin Montgomery

Joe Carroll

Ian Watt

Shujing Ding

***Collaborating Scientists***

Andrew McLachlan, FRS

Andrew Leslie, FRS

Tony Walsby, FRS

David Palmer

Ferdinando Palmieri

David Mueller

Bob Gennis

Greg Cook

Alex Eberle

Peter Lindinger

David Neuhaus

Steve Hands

Basil Wicky

Jane Clark

***Publications***

1. Walker, J. E. & Abraham, E. P. (1970). Isolation of bacilysin and a new amino acid from culture filtrates of *Bacillus subtilis*. *Biochem. J.* **118**, 557-561.

2. Walker, J. E. & Abraham, E. P. (1970). The structure of bacilysin and other products of *Bacillus subtilis*. *Biochem. J.* **118**, 563-570.

3. Walker, J. E., Bodanzsky, M. & Perlman, D. (1970). The biogenetic origin of the N-methyl-γ-methyl-L-isoleucine residue of etamycin. *J. Antibiotics* **23**, 255-256.

4. Grimwood, P. D., Minnikin, D. E., Polgar, N. & Walker, J. E. (1971). Synthesis of methyl 3-methyltridecanoate and 3,6-dimethyltridecanoate. *J. Chem. Soc.* (*C)*, 870-871.

5. Perlman, K. L., Walker, J. E. & Perlman, D. (1971). Actinomycin monolactone, a metabolite of *Streptomyces antibioticus*. *J. Antibiotics* **26**, 135-136.

6. Walker, J. E. (1971). Antibiotic production and sporulation in *Bacillus subtilis*. *Biochem. J.* **121**, 571-573.

7. Walker, J. E. & Perlman, D. (1971). The biogenesis of the L-N, β-dimethylleucine residue of etamycin. *Biotechnol. Bioeng.* **13**, 371-379.

8. Walker, J. E., Otani, S. & Perlman, D. (1972). The biosynthesis of actinomycin D: purification and properties of an enzyme which activates L-valine. *FEBS Lett.* **20**, 162-166.

9. Perlman, D., Otani, S., Perlman, K. L. & Walker, J. E. (1973). 4-Methyl-3-hydroxy-L-kynurenine, an intermediate in actinomycin biosynthesis. *J. Antibiotics* **26**, 289-296.

10. Walker, J. E. & Keil, B. (1973). Purification and characterisation of different active forms of pork trypsin. *Eur. J. Biochem.* **32**, 486-491.

11. Walker, J. E., Zylber, N. & Keil, B. (1973). Porcine trypsin: separation of the two polypeptide chains of the α form and partial amino acid sequence. *FEBS Lett.* **32**, 223-226.

12. Bridgen, J., Walker, I. D. & Walker, J. E. (1976). Structural investigations of peptides and proteins. in *Amino Acids, Peptides and Proteins, Vol. 7* pp. 31-147.

13. Burr, B., Walker, J. E., Truffa-Bachi, P. & Cohen, G. N. (1976). Homoserine kinase from *Escherichia coli* K12. *Eur. J. Biochem.* **62**, 519-526.

14. Walker, J. E. (1976). The amino acid sequence of a fragment of human serum albumin containing two of its antigenic sites. *Eur. J. Biochem.* **69**, 517-526.

15. Walker, J. E. (1976). Lysine residue 199 of human serum albumin is modified by acetylsalicylic acid. *FEBS Lett.* **66**, 173-175.

16. Biesecker G., Harris, J. I., Thierry, J. C., Walker, J. E. & Wonacott, A. J. (1977). Sequence and structure of D-glyceraldehyde 3-phosphate dehydrogenase from *Bacillus stearothermophilus.* *Nature* **266**, 328-333.

17. Harris, J. I. & Walker, J. E. (1977). Structure and properties of glyceraldehyde 3-phosphate dehydrogenase from thermophilic microorganisms. in *Pyridine nucleotide-dependent dehydrogenases.* (Sund, H., Ed.), pp. 44-58. de Gruyter and Co., Berlin.

18. MacLachlan, A. D. & Walker, J. E. (1977). Evolution of serum albumin. *J. Mol. Biol.* **112**, 543-558.

19. Schmitt, H. W. & Walker, J. E. (1977). Coupling capacity of solid phase sequencing supports. *FEBS Lett.* **81**, 403-405.

20. Walker, J. E., Shaw, D. C., Northrop, F. D. & Horsnell, T. (1977). Protein micro sequencing as an aid to rapid DNA sequencing. in *Methods in protein sequence analysis* (Previero, A. & Coletti-Previero, M. A., Eds.), pp. 277-285. Amsterdam, Elsevier, North Holland.

21. Barrell, B. G., Shaw, D. C., Walker, J. E., Northrop, F. D., Godson, G. N. & Fiddes, J. C. (1978). Overlapping genes in bacteriophages ΦX174 and G4. *Biochem. Soc. Trans.* **6**, 63-67.

22. McLachlan, A. D. & Walker, J. E. (1978). Serum albumin domain secondary structure prediction. *Biochim. Biophys. Acta* **536**, 106-111.

23. Shaw, D. C., Walker, J. E., Northrop, F. D., Barrell, B. G., Godson, G. N. & Fiddes, J. C. (1978). Gene K, a new overlapping gene in bacteriophage G4. *Nature* **272**, 510-515.

24. Walker, J. E. (1978). Enzymes from thermophilic bacteria. *12th Meeting of FEBS, Dresden* **52**, 211-225.

25. Walker, J. E. (1978) An appreciation of J. I. Harris (1925-1978). *12th Meeting of FEBS, Dresden* **52**, 1-5.

26. Emmerson, P. T., Northrop, F. D., Walker, J. E. & West, S. C. (1979). Amino terminal sequence of the recA protein of *Escherichia coli.* *FEBS Lett.* **106**, 349-351.

27. Walker, J. E., Carne, A. F. & Schmitt, H. W. (1979). Topography of the purple membrane. *Nature* **278**, 653-654.

28. Brock, C. J. & Walker, J. E. (1980). Superoxide dismutase from *Bacillus stearothermophilus*. Complete amino acid sequence of a manganese enzyme. *Biochemistry* **19**, 2873-2882.

29. Brock, C. J. & Walker, J. E. (1980). Superoxide dismutase from *Bacillus* *stearothermophilus*: metal binding and complete amino acid sequence. In *Chemical and Biochemical Aspects of Superoxide Dismutase* (Bannister, J. V. & Hill, H. A. O., Eds.), pp. 237-241. Elsevier/North Holland, Amsterdam.

30. Harris, J. I., Auffret, A. D., Northrop, F. D. & Walker, J. E. (1980). Structural comparisons of superoxide dismutases. *Eur. J. Biochem.* **106**, 297-303.

31. Harris, J. I., Hocking, J. D., Runswick, M. J., Suzuki, K. & Walker, J. E. (1980). D-glyceraldehyde-3-phosphate dehydrogenase. The purification and characterisation of the enzyme from the thermophiles *Bacillus stearothermophilus* and *Thermus aquaticus*. *Eur. J. Biochem.* **108**, 535-547.

32. Walker, J. E., Auffret, A. D., Brock, C. J. & Steinman, H. M. (1980). Structural comparisons superoxide dismutases. In *Chemical and Biochemical Aspects of Superoxide Dismutase* (Bannister, J. V. & Hill, H. A., Eds.), pp. 212-222. Elsevier/North Holland, Amsterdam.

31. Walker, J. E., Auffret, A. D., Carne, A. F., Naughton, M. A. & Runswick, M. J. (1980). Protein sequence analysis as an aid to rapid DNA sequencing: The mammalian mitochondrion. In *Methods in Peptide and Protein Sequence Analysis* (Birr, C., ed.), pp. 257-265. Elsevier/North-Holland Biomedical Press, Amsterdam, New York, Oxford.

32. Walker, J. E., Carne, A. F., Runswick, M. J., Bridgen, J. & Harris, J. I. (1980). D-glyceraldehyde-3-phosphate dehydrogenase. Complete amino acid sequence of the enzyme from *Bacillus stearothermophilus*. *Eur. J. Biochem.* **108**, 549-565.

33. Walker, J. E., Wonacott, J. A. & Harris, J. I. (1980). Heat stability of a tetrameric enzyme, D-glyceraldehyde-3-phosphate dehydrogenase. *Eur. J. Biochem.* **108**, 581-586.

34. Armstrong, J., Perham, R. N. & Walker, J. E. (1981). Domain structure of bacteriophage fd adsorption protein. *FEBS Lett.* **135**, 167-172.

35. Gay, N. J. & Walker, J. E. (1981). The *atp* operon: nucleotide sequence of the region encoding the α-subunit of *Escherichia coli* ATP synthase. *Nucleic Acids Res.* **9**, 2187-2194.

36. Neuberger, M. S., Hartley, B. S. & Walker, J. E. (1981). Purification and properties of D-ribulokinase and D-xylokinase from *Klebsiella aerogenes*. *Biochem. J.* **193**, 513-524.

37. Saraste, M., Gay, N. J., Eberle, A., Runswick, M. J. & Walker, J. E. (1981). The *atp* operon: nucleotide sequence of the genes for the γ, β and ε subunits of *Escherichia coli* ATP synthase. *Nucleic Acids Res.* **9**, 5287-5296.

38. Walker, J. E. (1981). Recombinant DNA and protein sequence analysis. In *Perspectives in Peptide Chemistry* (Eberle, A., Geiger, R. & Wieland, T., Eds.), pp. 178-184. Karger, S., Basel.

39. Gay, N. J. & Walker, J. E. (1981). The *atp* operon: nucleotide sequence of the promoter and the genes for the membrane proteins and the δ subunit of *Escherichia coli* ATP synthase. *Nucleic Acids Res.* **9**, 3919-3926.

40. Saraste, M. & Walker, J. E. (1982). Internal sequence repeats and the path of polypeptide in mitochondrial ADP/ATP translocase. *FEBS Lett.* **144**, 250-254.

41. Walker, J. E., Auffret, A. D., Carne, A., Gurnett, A., Hanisch, P., Hill, D. & Saraste, M. (1982). Solid phase sequence analysis of polypeptides eluted from polyacrylamide gels: An aid to interpretation of DNA sequences exemplified by the *Escherichia coli unc* operon and bacteriophage lambda. *Eur. J. Biochem.* **123**, 253-260.

42. Walker, J. E., Eberle, A., Gay, N. J., Hanisch, P., Saraste, M. & Runswick, M. J. (1982). Analysis of the *Escherichia coli* ATP-synthase complex by DNA and protein sequencing. In *Methods in Protein and Peptide Sequence Analysis* (Elzinga, M., Ed.), pp. 337-354. Plenum Press, New York.

43. Walker, J. E., Eberle, A., Gay, N. J., Runswick, M. J. & Saraste, M. (1982). Conservation of structure in proton translocating ATPases of *Escherichia coli* and mitochondria. *Biochem. Soc. Trans.* **10**, 203-206.

44. Walker, J. E., Runswick, M. J. & Saraste, M. (1982). Subunit equivalence in *Escherichia coli* and bovine heart mitochondrial F1Fo-ATPases. *FEBS Lett.* **146**, 393-396.

45. Walker, J. E., Saraste, M. & Gay, N. J. (1982). *E. coli* F1-ATPase interacts with a membrane protein component of a proton channel. *Nature* **298**, 867-869.

46. Walker, J. E., Saraste, M., Runswick, M. J. & Gay, N. J. (1982). Distantly related sequences in the α and β subunits of ATP synthase, myosin, kinases and other ATP requiring enzymes and a common nucleotide binding fold. *EMBO J.* **1**, 945-951.

47. Carne, A. & Walker, J. E. (1983). Amino acid sequence of ovine 6-phosphogluconate dehydrogenase. *J. Biol. Chem.* **258**, 12895-12906.

48. Gay, N. J. & Walker, J. E. (1983). Homology between human bladder carcinoma oncogene product and mitochondrial ATP-synthase. *Nature* **301**, 262-264.

49. Hollemans, M., Runswick, M. J., Fearnley, I. M. & Walker, J. E. (1983). The sites of labelling of the β subunit of bovine mitochondrial F1-ATPase with 8-azido ATP. *J. Biol. Chem.* **258**, 9307-9313.

50. Runswick, M. J. & Walker, J. E. (1983). The amino acid sequence of the β subunit of ATP synthase from bovine heart mitochondria. *J. Biol. Chem.* **258**, 3081-3089.

51. Walker, J. E. & Gay, N. J. (1983). Analysis of *Escherichia coli* ATP synthase subunits by DNA and protein sequencing. *Methods in Enzymol.* **97**, 195-218.

52. Walker, J. E., Gay, N. J., Runswick, M. J., Tybulewicz, V. L. J. & Falk, G. (1983). Structure and assembly of F1Fo-ATPase complex. In *Structure and Function of Membrane Proteins* (Quagliariello, E. & Palmieri, F., Eds.), pp. 167-176. Elsevier Science Publishers, Amsterdam.

53. Walker, J. E. & Walsby, A. E. (1983). Molecular weight of gas-vesicle protein from the planktonic cyanobacterium *Anabaena* *flos-aquae* and implications for structure of the vesicle. *Biochem. J.* **209**, 809-815.

54. Cook, K. G., Bradford, A. P., Yeaman, S. J., Aitken, A., Fearnley, I. M. & Walker, J. E. (1984). Regulation of bovine kidney branched chain 2-oxoacid dehydrogenase complex by reversible phosphorylation. *Eur. J. Biochem.* **145**, 587-591.

55. Leadlay, P. F., Roberts, G. & Walker, J. E. (1984). Isolation of a novel calcium-binding protein from *Streptomyces erythreus*. *FEBS Lett.* **178**, 157-160.

56. Tybulewicz, V. L. J., Falk, G. & Walker, J. E. (1984). *Rhodopseudomonas blastica* atp operon: Nucleotide sequence and transcription. *J. Mol. Biol.* **179**, 185-214.

57. Walker, J. E., Falk, G., Gay, N. J. & Tybulewicz, V. L. J. (1984). Genes for bacterial and mitochondrial ATP synthase. *Biochem. Soc. Trans.* **12**, 234-235.

58. Walker, J. E., Gay, N. J., Saraste, M. & Eberle, A. N. (1984). DNA sequence around the *Escherichia coli unc* operon. *Biochem. J.* **224**, 799-815.

59. Walker, J. E., Saraste, M. & Gay, N. J. (1984). The *unc* operon: nucleotide sequence, regulation and structure of ATP synthase. *Biochim. Biophys. Acta* **768**, 164-200.

60. Walker J.E., Tybulewicz, V. L. J., Falk, G., Gay, N. J. & Hampe, A. (1984). Organization of genes for proton translocating ATPases. In *H+-ATPase (ATP Synthase, Structure, Function, Biogenesis* (Papa, S., Altendorf, K., Ernster, L. & Packer, L., Eds.), pp. 1-14. Adriatica Editrice, Bari, Italy.

61. Walker, J. E. & Walsby, A. E. (1984). Homology of gas vesicle proteins in cyanobacteria and halobacteria. *J. Gen. Microbiol.* **130**, 2709-2715.

62. Falk, G., Hampe, A. & Walker, J. E. (1985). Nucleotide sequence of the *Rhodospirillum rubrum atp* operon. *Biochem. J.* **228**, 391-407.

63. Falk, G. & Walker, J. E. (1985). Transcription of *Rhodospirillum rubrum atp* operon. *Biochem. J.* **229**, 663-668.

64. Gay, N. J. & Walker, J. E. (1985). Molecular cloning of a bovine cathepsin. *Biochem. J.* **225**, 707-712.

65. Gay, N. J. & Walker, J. E. (1985). Two genes encoding the bovine mitochondrial ATP synthase proteolipid specify precursors with different import sequences and are expressed in a tissue-specific manner. *EMBO J.* **4**, 3519-3524.

66. Howe, C. J., Fearnley, I. M., Walker, J. E., Dyer, T. A. & Gray, J. C. (1985). Nucleotide sequences of the genes for the α, β and ε subunits of wheat chloroplast ATP synthase. *Plant Mol. Biol.* **4**, 333-345.

67. Matsudaira, P., Jakes, R. & Walker, J. E. (1985). A gelsolin-like Ca++-dependent actin-binding domain in villin. *Nature* **315**, 248-250.

68. Tybulewicz, V. L. J., Falk, G. & Walker, J. E. (1985). DNA sequence and transcription of genes for ATP-synthase subunits from photosynthetic bacteria. *Methods in Enzymol.* **125**, 230-249.

69. Voordouw, G., Walker, J. E. & Brenner, S. (1985). Cloning of the gene encoding the hydrogenase from *Desulfovibrio vulgaris* (Hildenborough) and determination of the NH2-terminal sequence. *Eur. J. Biochem.* **148**, 509-514.

70. Walker, J. E., Cozens, A., Dyer, M., Fearnley, I. M., Gay, N. J., Kostina, M., Powell, S., Tybulewicz, V. L. J. & Runswick, M. J. (1985). Genes for H+-ATPases. In *Achievements and Perspectives of Mitochondrial Research* (Quagliariello, E., Slater, E. C., Palmieri, F., Saccone, C. & Kroon, A. M., Eds.), pp. 203-210. Elsevier Science Publishers, Amsterdam.

71. Walker, J. E., Fearnley, I. M., Gay, N. J., Gibson, B. W., Northrop, F. D., Powell, S. J., Runswick, M. J., Saraste, M. & Tybulewicz, V. L. J. (1985). Primary structure and subunit stoichiometry of F1-ATPase from bovine mitochondria. *J. Mol. Biol.* **184**, 677-701.

72. Walker, J. E. & Tybulewicz, V. L. J. (1985). Comparative genetics and biochemistry of light driven ATP synthases. In *The molecular biology of the photosynthetic apparatus* (Arntzen, C., Bogorad, L. & Bonitz, S., Eds.), pp. 141-153. Cold Spring Harbor.

73. Walker, J. E., Tybulewicz, V. L. J., Falk, G., Gay, N. J. & Hampe, A. (1985). Genes for proton translocating ATPases. *Proc. 16th FEBS Congress, Part B* 431-442.

74. Cozens, A. L. & Walker, J. E. (1986). Pea chloroplast DNA encodes homologues of *Escherichia coli* ribosomal subunit S2 and the β’ subunit of RNA polymerase. *Biochem. J.* **236**, 453-460.

75. Cozens, A. L., Walker, J. E., Phillips, A. L., Huttly, A. K. & Gray, J. C. (1986). A sixth subunit of ATP synthase, an Fo component, is encoded in the pea chloroplast genome. *EMBO J.* **5**, 217-222.

76. Fearnley, I. M. & Walker, J. E. (1986). Two overlapping genes in bovine mitochondrial DNA encode membrane components of ATP synthase. *EMBO J.* **5**, 2003-2008.

77. Gay, N. J., Tybulewicz, V. L. J. & Walker, J. E. (1986). Insertion of transposon Tn7 into the *Escherichia coli glm*S transcriptional terminator. *Biochem. J.* **233**, 111-117.

78. Hayes, P. K., Walsby, A. E. & Walker, J. E. (1986). Complete amino acid sequence of cyanobacterial gas-vesicle protein indicates a 70 residue molecule that corresponds in size to the crystallographic unit cell. *Biochem. J.* **236**, 31-36.

79. Mason, R. W., Walker, J. E. & Northrop, F. D. (1986). The N-terminal sequences of the heavy and light chains of human cathepsin L: relationship to a c-DNA clone from a major cysteine proteinase from a mouse macrophage cell line. *Biochem. J.* **240**, 373-377.

80. Runswick, M. J., Walker, J. E., Gibson, B. W. & Williams, D. H. (1986). The frayed N-terminal of the inhibitor protein of bovine mitochondrial F1-ATPase. *Biochem. J.* **235**, 515-519.

81. Salvesen, G., Gay, N. J. & Walker, J. E. (1986). Cloning a bovine protein homologous with cysteine proteinases and identification of the gene. In *Cysteine proteinases and their inhibitors* (Turk, V., Ed.), pp. 55-62. de Gruyter & Co., Berlin, New York.

82. Walker, J. E. & Cozens, A. L. (1986). Evolution of ATP synthase. *Chemica Scripta* **26B**, 263-272.

83. Walker, J. E., Fearnley, I. M. & Blows, R. A. (1986). A rapid solid phase microsequencer. *Biochem. J.* **237**, 73-84.

84. Walker, J. E. & Fearnley, I. M. (1986). Sequence analysis of membrane proteins. In *Techniques for the Analysis of Membrane Proteins* (Ragan, C. I. & Cherry, R. J., Eds.), pp. 235-274. Chapman and Hall, London, New York.

85. Cozens, A. L. & Walker, J. E. (1987). The organization and sequence of the genes for ATP synthase subunits in the cyanobacterium *Synechococcus* 6301: support for an endosymbiotic origin of chloroplasts. *J. Mol. Biol.* **194**, 359-383.

86. Fearnley, I. M. & Walker, J. E. (1987). Initiation codons in mammalian mitochondria: differences in the genetic code of the organelle. *Biochemistry*, **26**, 8247-8251.

87. Runswick, M. J., Powell, S. J., Nyren, P. & Walker, J. E. (1987). Sequence of the bovine mitochondrial phosphate carrier protein: structural relationship to ADP/ATP translocase and the brown fat mitochondrial uncoupling protein. *EMBO J.* **6**, 1367-1373.

88. Walker, J. E., Cozens, A. L., Dyer, M. R., Fearnley, I. M., Powell, S. J. & Runswick, M. J. (1987). Genes for ATP synthase from bacteria, chloroplasts and mitochondria. In *Bioenergetics: Structure and Function of Energy Transducing Systems* (Ozawa, T. & Papa, S., Eds.), pp. 167-178. Japan Sci. Soc. Press/Springer-Verlag, Tokyo, Berlin.

89. Walker, J. E., Cozens, A. L., Dyer, M. R., Fearnley, I. M., Powell, S. J. & Runswick, M. J. (1987). Structure and genes of ATP synthase. *Biochem. Soc. Trans.* **15**, 104-106.

90. Walker, J. E., Cozens, A. L., Dyer, M. R., Fearnley, I. M., Powell, S. J. & Runswick, M. J. (1987). Studies of the genes for ATP synthases in eubacteria, chloroplasts and mitochondria: Implications for structure and function of the enzyme. *Chemica Scripta* **27B**, 97-105.

91. Walker, J. E., Gay, N. J., Powell, S. J., Kostina, M. & Dyer, M. R. (1987). ATP synthase from bovine mitochondria: sequences of imported precursors of oligomycin sensitivity conferral protein, factor 6 and adenosine triphosphatase inhibitor protein. *Biochemistry* **26**, 8613-8619.

92. Walker, J. E., Runswick, M. J. & Poulter, L. (1987). ATP synthase from bovine mitochondria: characterization and sequence analysis of two membrane associated subunits and of their corresponding c-DNAs. *J. Mol. Biol.* **197**, 89-100.

93. Cozens, A. L. & Walker, J. E. (1988). Expression of a gene encoding a novel ferredoxin in the cyanobacterium, *Synechococcus* 6301. *Biochem. J.* **252**, 563-569.

94. Cozens, A. L. & Walker, J. E. (1988). Genes for ATP synthase in *Synechococcus* 6301. *Methods in Enzymol.* **167**, 794-803.

95. Falk, G. & Walker, J. E. (1988). DNA sequence of a gene cluster coding for subunits of the Fo membrane sector of ATP synthase in *Rhodospirillum rubrum*. *Biochem. J.* **254**, 109-122.

96. Goedert, M., Wischik, C. M., Crowther, R. A., Walker, J. E. & Klug, A. (1988). Cloning and sequencing of the cDNA encoding a core protein of the paired helical filament of Alzheimer disease. Identification as the microtubule-associated protein tau. *Proc. Natl. Acad. Sci. U.S.A.* **85**, 4051-4055.

97. Goedert, M., Wischik, C., Crowther, R. A., Spillantini, M. G., Walker, J. E. & Klug, A. (1988). Molecular cloning of cDNAs coding for human τ protein, a component of the PHF core. In *The molecular biology of Alzheimer’s disease* (Finch, C. E. & Davies, P., Eds.), pp. 143-149. Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, U. S. A.

98. Hayes, P. K., Lazarus, C. M., Walker, J. E. & Walsby, A. E. (1988). The protein encoded by *gvp* C is a minor component of gas vesicles isolated from the cyanobacteria *Anabaena flos-aquae* and *Microcystis* sp. *Molecular Microbiol.* **2**, 545-552.

99. Walker, J. E., Cozens, A. L., Dyer, M. R., Fearnley, I. M. & Runswick, M. J. (1988). Multigene families for mitochondrial proteins in mammals: ATP synthase and transport proteins. In *Molecular basis of biomembrane transport* (Palmieri, F. & Quagliariello, E., Eds.), pp. 209-216. Elsevier Science Publishers B.V., Amsterdam.

100. Wischik, C. M., Novak, M., Thøgersen, H. C., Edwards, P. C., Runswick, M. J., Jakes, R., Walker, J. E., Milstein, C., Roth, M. & Klug, A. (1988). Isolation of a fragment of tau derived from the core of the paired helical filament of Alzheimer disease. *Proc. Natl. Acad. Sci. U.S.A.* **85**, 4506-4510.

101. Wischik, C. M., Novak, M., Walker, J. E., Milstein, C., Roth, M., Klug, A. & Crowther, R. A. (1988). Isolation and characterization of a fragment of τ protein from the PHF core. In *The Molecular Biology of Alzheimer’s Disease* (Finch, C. E. & Davies, P., Eds.), pp. 137-142. Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, U.S.A.

102. Cozens, A. L., Runswick, M. J. & Walker, J. E. (1989). DNA sequences of two differently expressed nuclear genes for human mitochondrial ADP/ATP translocase. *J. Mol. Biol.* **206**, 261-280.

103. Dyer, M. R., Gay, N. J., Powell, S. J. & Walker, J. E. (1989). ATP synthase from bovine mitochondria: complementary DNA sequence of the mitochondrial import precursor of the γ subunit and the genomic sequence of the mature protein. *Biochemistry* **28**, 3670-3680.

104. Dyer, M. R., Gay, N. J. & Walker, J. E. (1989). DNA sequences of a bovine gene and of two related pseudogenes for the proteolipid subunit of mitochondrial ATP synthase. *Biochem. J.* **260**, 249-258.

105. Fearnley, I. M., Runswick, M. J. & Walker, J. E. (1989). A homologue of the nuclear encoded 49 kD subunit of bovine mitochondrial NADH-ubiquinone reductase is coded in chloroplast DNA. *EMBO J.* **8**, 665-672.

106. Pilkington, S. J. & Walker, J. E. (1989). Mitochondrial NADH-ubiquinone reductase: complementary DNA sequences of import precursors of the bovine and human 24 kDa subunit. *Biochemistry* **28**, 3257-3264.

107. Powell, S. J., Medd, S. M., Runswick, M. J. & Walker, J. E. (1989). Two bovine genes for mitochondrial ADP/ATP translocase expressed differently in various tissues. *Biochemistry* **28**, 866-873.

108. Runswick, M. J., Gennis, R. B., Fearnley, I. M. & Walker, J. E. (1989). Mitochondrial NADH:ubiquinone reductase: complementary DNA sequence of the import precursor of the bovine 75 kDa subunit. *Biochemistry* **28**, 9452-9459.

109. Walker, J. E., Powell, S. J., Viñas, O. & Runswick, M. J. (1989). ATP synthase from bovine mitochondria: complementary DNA sequence of the import precursor of a heart isoform of the α subunit. *Biochemistry* **28**, 4702-4708.

110. Fearnley, I. M., Walker, J. E., Martinus, R. D., Jolly, R. D., Kirkland, K. B., Shaw, G. J. & Palmer, D. N. (1990). The major protein stored in ovine ceroid lipofuscinosis is identical to the DCCD-reactive proteolipid of mitochondrial ATP synthase. *Biochem. J.* **268**, 751-758.

111. Medd, S. M., Walker, J. E., Fearnley, I. M., Jolly, R. D. & Palmer, D. N. (1990). Lysosomal storage of a mitochondrial protein in Batten’s disease (ceroid lipofuscinosis). In *Molecular basis of neurological disorders and their treatment* (Garrod, A., Ed.), pp. 154-165. Chapman and Hall, London.

112. Palmer, D. N., Fearnley, I. M., Medd, S. M., Walker, J. E., Martinus, R. D., Jolly, R. D., Hall, N. A., Lake, B. D. & Wolfe, L. S. (1990). Lysosomal storage of the DCCD reactive proteolipid, subunit c, of mitochondrial ATP synthase in human and ovine ceroid lipofuscinoses. In *Lipofuscin and ceroid pigments* (Porta, E. A., Ed.), pp. 211-223. Plenum Press, New York.

113. Runswick, M. J., Walker, J. E., Bisaccia, F., Iacobazzi, V. & Palmieri, F. (1990). Sequence of the bovine 2-oxoglutarate / malate carrier protein: structural relationship to other mitochondrial transport proteins. *Biochemistry* **29**, 11033-11040.

114. Runswick, M. J., Medd, S. M. & Walker, J. E. (1990). The δ subunit of ATP synthase from bovine heart mitochondria. Complementary DNA sequence of its import precursor cloned with the aid of the polymerase chain reaction. *Biochem. J.* **266**, 421-426.

115. Viñas, O., Powell, S. J., Runswick, M. J., Iacobazzi, V. & Walker, J. E. (1990). The ε subunit of ATP synthase from bovine heart mitochondria: complementary DNA sequence, expression in bovine tissues and evidence of homologous sequences in man and rat. *Biochem. J.* **265**, 321-326.

116. Walker, J. E., Fearnley, I. M., Lutter, R., Todd, R. J. & Runswick, M. J. (1990). Structural aspects of proton pumping ATPases. *Phil. Trans. Royal Soc.* **326**, 367-378.

117. Dupuis, A., Skehel, J. M. & Walker, J. E. (1991). A homologue of a nuclear coded iron-sulphur protein subunit of bovine mitochondrial complex I is encoded in chloroplast DNA. *Biochemistry* **30**, 2954-2960.

118. Dupuis, A., Skehel, J. M. & Walker, J. E. (1991). NADH:ubiquinone reductase from bovine mitochondria: complementary DNA sequence of a 19 kDa cysteine rich subunit. *Biochem. J.* **277**, 11-15.

1. Fearnley, I. M., Finel, M., Skehel, J. M. & Walker, J. E. (1991). NADH: ubiquinone oxidoreductase from bovine heart mitochondria; cDNA sequences of the import precursors of the nuclear coded 39-kDa and 42-kDa subunits. *Biochem. J.* **278**, 821-829.

120. Pilkington, S. J., Skehel, J. M. & Walker, J. E. (1991). The 30-kilodalton subunit of bovine mitochondrial complex I is homologous to a protein coded in chloroplast DNA. *Biochemistry* **30**, 1901-1908.

121. Pilkington, S. J., Skehel, J. M. & Walker, J. E. (1991). The flavoprotein fraction of NADH:ubiquinone reductase from bovine mitochondria: Relationship to a bacterial NAD-reducing hydrogenase. In *Flavins and Flavoproteins* pp. 731-734. Walter de Gruyter & Co., Berlin, New York.

122. Pilkington, S. J., Skehel, J. M., Gennis, R. B. & Walker, J. E. (1991). Relationship between mitochondrial NADH-ubiquinone reductase and a NAD reducing dehydrogenase. *Biochemistry* **30**, 2166-2175.

123. Runswick, M. J., Fearnley, I. M., Skehel, J. M. & Walker, J. E. (1991). Presence of an acyl carrier protein in NADH:ubiquinone oxidoreductase from bovine heart mitochondria. *FEBS Lett.* **286**, 121-124.

124. Skehel, J. M., Pilkington, S. J., Runswick, M. J., Fearnley, I. M. & Walker, J. E. (1991). NADH:ubiquinone oxidoreductase from bovine heart mitochondria. complementary DNA sequence of the import precursor of the 10 kDa subunit of the flavoprotein fragment. *FEBS Lett.* **282**, 135-138.

125. Walker, J. E., Lutter, R., Dupuis, A. & Runswick, M. J. (1991). Identification of the subunits of F1Fo-ATPase from bovine heart mitochondria. *Biochemistry* **30**, 5369-5378.

126. Arizmendi, J. M., Runswick, M. J., Skehel, J. M. & Walker, J. E. (1992). NADH: ubiquinone oxidoreductase from bovine heart mitochondria. A fourth nuclear encoded subunit with a homologue encoded in chloroplast genomes. *FEBS Lett.* **301**, 237-242.

127. Arizmendi, J. M., Skehel, J. M., Runswick, M. J., Fearnley, I. M. & Walker, J. E. (1992). Complementary DNA sequences of two 14.5 kDa subunits of NADH:ubiquinone oxidoreductase from bovine heart mitochondria. Completion of the primary structure of the complex? *FEBS Lett.* **313**, 80-84.

128. Fearnley, I. M. & Walker, J. E. (1992). Conservation of sequences of subunits of mitochondrial complex I and their relationships with other proteins. *Biochim. Biophys. Acta Bioenerget. Rev.* **1140**, 105-134.

129. Fiermonte, G., Runswick, M. J., Walker, J. E. & Palmieri, F. (1992). Sequence and pattern of expression of a bovine homologue of a human mitochondrial transport protein associated with Graves’ disease. *DNA Sequence.* **3**, 71-78.

130. Finel, M., Skehel, J. M., Albracht, S. P. J., Fearnley, I. M. & Walker, J. E. (1992). Resolution of NADH:ubiquinone oxidoreductase from bovine heart mitochondria into two subcomplexes one of which contains the redox centers of the enzyme. *Biochemistry* **31**, 11425-11434.

131. Iacobazzi, V., Palmieri, F., Runswick, M. J. & Walker, J. E. (1992). Sequences of the human and bovine genes for the mitochondrial 2-oxoglutarate carrier. *DNA Sequence* **3**, 79-88.

132. Lutter, R., Abrahams, J. P., van Raaij, M. J., Todd, R. J., Lundqvist, T., Buchanan, S. K., Leslie, A. & Walker, J. E. (1992). Crystallization of F1-ATPase from bovine heart mitochondria. *J. Mol. Biol.* **229**, 787-790.

133. Palmer, D. N., Fearnley, I. M., Walker, J. E., Hall, N. A., Lake, B. D., Wolfe, L. S., Haltia, M., Martinus, R. D. & Jolly, R. D. (1992). Mitochondrial ATP synthase subunit c storage in the ceroid lipofuscinoses (Batten Disease). *Am. J. Medical Genet.* **42**, 561-567.

134. Pilkington, S. J., Arizmendi, J., Fearnley, I. M., Runswick, M. J., Skehel, J. M. & Walker, J. E. (1992). Structural organization of complex I from bovine mitochondria. *Biochem. Soc. Trans.* **21**, 26-31.

135. Somers, D. O’N, Medd, S. M., Walker, J. E. & Adams, M. J. (1992). Sheep 6-phosphogluconate dehydrogenase: revised protein sequence based upon the sequences of cDNA clones obtained with the polymerase chain reaction. *Biochem. J.* **288**, 1061-1067.

136. Walker, J. E. (1992). The mitochondrial transporter family. *Curr. Opinion Struct. Biol.* **2**, 519-526.

137. Walker, J. E. (1992). The NADH:ubiquinone oxidoreductase (complex I) of respiratory chains. *Qu. Rev. Biophys.* **25**, 253-324.

138. Walker, J. E., Arizmendi, J. M., Dupuis, A., Fearnley, I. M., Finel, M., Medd, S. M., Pilkington, S. J., Runswick, M. J. & Skehel, J. M. (1992). Sequences of 20 subunits of NADH:ubiquinone oxidoreductase from bovine heart mitochondria. Application of a novel strategy for sequencing proteins using the polymerase chain reaction. *J. Mol. Biol.* **226**,1051-1072.

139. Walker, J. E., Arizmendi, J. M., Fearnley, I. M., Medd, S. M., Pilkington, S. J., Runswick, M. J. & Skehel, J. M. (1992). A strategy for determination of the sequences of the major proteins in the inner mitochondrial membrane. In *Molecular mechanisms of transport* (Palmieri, F. & Quagliariello, E., Eds.), pp. 15-21. Elsevier Science Publishers B.V., Amsterdam.

140. Abrahams, J. P., Lutter, R., Todd, R. J., van Raaij, M. J., Leslie, A. G. W. & Walker, J. E. (1993). Inherent asymmetry of the structure of F1-ATPase from bovine heart mitochondria at 6.5 Å resolution. *EMBO J.* **12**, 1775-1780.

141. Dyer, M. R. & Walker, J. E. (1993). Sequences of members of the human gene family for the c subunit of mitochondrial ATP synthase. *Biochem. J.* **293**, 51-64.

142. Fiermonte, G., Walker, J. E. & Palmieri, F. (1993). Abundant bacterial expression and reconstitution of an intrinsic membrane transport protein from bovine mitochondria. *Biochem. J.* **294**, 293-299.

143. Lutter, R., Saraste, M., van Walraven, H. S., Runswick, M. J., Finel, M., Deatherage, J. F. & Walker, J. E. (1993). F1Fo-ATPase from bovine heart mitochondria: development of the purification of a monodisperse oligomycin sensitive ATPase. *Biochem. J.* **295**, 799-806.

1. Medd, S. M., Walker, J. E. & Jolly, R. D. (1993). Characterisation of the expressed genes for the c subunit of mitochondrial ATP synthase in sheep with ceroid lipofuscinosis. *Biochem. J.* **293**, 65-73.

145. Pilkington, S. J. & Walker, J. E. (1993). Complementary DNA sequence of bovine cpn 10 (Hsp 10), a chaperone protein from mitochondria. *DNA Sequence* **3**, 291-295.

146. Van Walraven, H. S., Lutter, R. & Walker, J. E. (1993). Organization and sequence of genes for subunits of ATP synthase in the thermophilic cyanobacterium *Synechococcus* 6716. *Biochem. J.* **294**, 239-251.

147. Walker, J. E. & Runswick, M. J. (1993). The mitochondrial transport protein super-family. *J. Bioenerget. Biomembranes* **5**, 435-446.

148. Abrahams, J. P., Leslie, A. G. W., Lutter, R. & Walker, J. E. (1994). Structure at 2.8 Å resolution of F1-ATPase from bovine heart mitochondria. *Nature* **370**, 621-628.

149. Buchanan, S. K. & Walker, J. E. (1994). Chromatographic purification of F1Fo-ATPase and complex I from bovine heart mitochondria. In *A practical guide to membrane protein purification* (von Jagow, G. & Schägger, H., Eds.), pp. 125-133. Academic Press, New York, London.

150. Collinson, I. R., Fearnley, I. M., Runswick, M. J., Skehel, J. M. & Walker, J. E. (1994). ATP synthase from bovine heart mitochondria: identification of the sites in Fo that are exposed to proteolysis by removal of F1 and the OSCP. *Biochem. J.* **303**, 639-645.

151. Collinson, I. R., Runswick, M. J., Buchanan, S. K., Fearnley, I. M., Skehel, J. M., van Raaij, M. J., Griffiths, D. E. & Walker, J. E. (1994). The Fo membrane domain of ATP synthase from bovine heart mitochondria: purification, subunit composition and reconstitution with F1-ATPase. *Biochemistry* **33**, 7971-7978.

152. Collinson, I. R., van Raaij, M. J., Runswick, M. J., Fearnley, I. M., Skehel, J. M., Orriss, G., Miroux, B. & Walker, J. E. (1994). ATP synthase from bovine heart mitochondria: *in vitro* assembly of a stalk complex in the presence of F1-ATPase and in its absence. *J. Mol. Biol.* **242**, 408-421.

153. Dolce, V., Iacobazzi, V., Palmieri, F. & Walker, J. E. (1994). The sequences of human and bovine genes of the phosphate carrier from mitochondria contain evidence of alternatively spliced forms. *J. Biol. Chem.* **269**, 10451-10460.

154. Fearnley, I. M., Skehel, J. M. & Walker, J. E. (1994). Electrospray ionization mass spectrometric analysis of subunits of NADH:ubiquinone oxidoreductase (complex I) from bovine heart mitochondria. *Biochem. Soc. Trans.* **22**, 551-555.

155. Runswick, M. J., Philippedes, A., Lauria, G. & Walker, J. E. (1994). Extension of the mitochondrial transporter super-family: sequences of five members from the nematode worm, *Caenorhabditis elegans*. *DNA Sequence* **4**, 281-291.

156. Walker, J. E. (1994). The mechanism of ATP synthesis. *The Biochemist* **16**, 31-35.

157. Walker, J. E. & Collinson, I. R. (1994). The role of the stalk in the coupling mechanism of F1Fo-ATPases. *FEBS Lett.* **346**, 39-43.

158. Walker, J. E. & Runswick, M. J. (1994). Extension of the mitochondrial transporter family. In *Molecular Biology of Mitochondrial Transport Systems. NATO Advanced Science Institute Series: Vol H 83* (Forte, M. and Colombini, M., Eds.), pp. 41-53. Springer, Berlin, Heidelberg.

159. Walker, J. E. (1994). The power behind the cell. *MRC News* No. 64, 10-13.

160. Walker, J. E. (1994). The regulation of catalysis in ATP synthase. *Curr. Opinion Struct. Biol.* **4**, 912-918.

161. Bentlage, H. A. C. M., Janssen, A. J. M., Chomyn, A., Attardi, G., Walker, J. E., Schägger, H., Sengers, R. C. A. & Trijbels, F. J. M. (1995) Multiple deficiencies of mitochondrial DNA- and nuclear- encoded subunits of respiratory NADH dehydrogenase detected with peptide- and subunit-specific antibodies in mitochondrial myopathies. *Biochim. Biophys. Acta*, **1234**, 63-73.

162. Walker, J. E., Collinson, I. R., Van Raaij, M. J. & Runswick, M. J. (1995). Structural analysis of ATP synthase (F1Fo-ATPase) from bovine heart mitochondria. *Methods in Enzymol.* **260**, 163-190.

163. Walker, J. E., Skehel, J. M. & Buchanan, S. K. (1995). Structural analysis of complex I from bovine heart mitochondria. *Methods in Enzymol.* **260**, 14-34.

164. Walker, J. E. (1995). Determination of the structures of respiratory enzyme complexes from mammalian mitochondria. *Biochim. Biophys. Acta* Special Issue on “Mitochondrial Diseases”, **1271**, 221-227.

165. Orriss, G. L., Runswick, M. J., Collinson, I. R., Miroux, B., Fearnley, I. M., Skehel, J. M. & Walker, J. E. (1996). The δ- and ε-subunits of bovine F1-ATPase interact to form a heterodimeric complex. *Biochem. J.* **314**, 695-700.

166. Buchanan, S. K. & Walker, J. E. (1996). Large scale chromatographic purification of F1Fo-ATPase and complex I from bovine heart mitochondria. *Biochem. J.* **318**, 343-349.

167. Abrahams, J. P., Buchanan, S. K., van Raaij, M. J., Fearnley, I. M., Leslie, A. G. W. & Walker, J. E. (1996). The structure of bovine F1-ATPase complexed with the peptide antibiotic efrapeptin. *Proc. Natl. Acad. Sci. U. S. A.* **93**, 9420-9424.

168. Fearnley, I. M. & Walker, J. E. (1996). Analysis of hydrophobic proteins by electro-spray ionization mass spectrometry. *Biochem. Soc. Trans.* **24**, 912-917.

169. Groth, G. & Walker, J. E. (1996). ATP synthase from bovine heart mitochondria: reconstitution into unilamellar phospholipid vesicles of the pure enzyme in a functional state. *Biochem. J.* **318**, 351-357.

170. Miroux, B. & Walker, J. E. (1996). Over-expression of proteins in *Escherichia coli:* mutant hosts that allow synthesis of some membrane proteins and globular proteins at high levels. *J. Mol. Biol.* **260**, 289-298.

171. van Raaij, M. J., Abrahams, J. P., Leslie, A. G. W. & Walker, J. E. (1996). The structure of bovine F1-ATPase complexed with the antibiotic inhibitor aurovertin. *Proc. Natl. Acad. Sci. U. S. A.* **93**, 6913-6917.

172. Collinson, I. R., Skehel, J. M., Fearnley, I. M., Runswick, M. J. & Walker, J. E. (1996). The F1Fo-ATPase complex from bovine heart mitochondria: the molar ratio of the subunits in the stalk region linking the F1 and Fo domains. *Biochemistry,* **35**, 12640-12646.

173. Walker, J. E. & Saraste, M. (1996). Membrane protein structure. *Curr. Opinion Struct. Biol.* **6**, 457-459.

174. van Raaij, M. J., Orriss, G. L., Montgomery, M. G., Runswick, M. J., Fearnley, I. M., Skehel, J. M. & Walker, J. E. (1996). The ATPase inhibitor protein from bovine heart mitochondria: the minimal inhibitory sequence. *Biochemistry,* **35**, 15618-15625.

175. Palmieri, L., Palmieri, F., Runswick, M. J. & Walker, J. E. (1996). Identification by bacterial expression and functional reconstitution of the yeast genomic sequence encoding the mitochondrial dicarboxylate carrier protein. *FEBS Lett.* **399**, 299-302.

176. Palmieri, L., De Marco, V. Iacobazzi, V., Palmieri, F., Runswick, M. J. & Walker, J. E. (1996). Identification of the yeast ARG-11 gene as a mitochondrial ornithine carrier involved in arginine biosynthesis. *FEBS Lett.* **410**, 447-451.

177. Groth, G. & Walker, J. E. (1997). Model of the c-subunit oligomer in the membrane domain of F1-ATPase. *FEBS Lett.* **410**, 117-123.

178. Shirakihara, Y., Leslie, A. G. W., Abrahams, J. P., Walker, J. E., Ueda, T., Sekimoto, Y., Kambara, M., Saika, K., Kagawa, Y. & Yoshida, M. (1997). The crystal structure of the nucleotide-free α3β3 subcomplex of F1-ATPase from the thermophilic *Bacillus* PS3 is a symmetric trimer. *Structure*, **5**, 825-836.

179. Palmieri, L., Lasorsa, F. M., De Palma, A., Palmieri, F., Runswick, M. J. & Walker, J. E. (1997). Identification of the yeast ACR1 gene product as a succinate-fumarate transporter essential for growth on ethanol or acetate. *FEBS Lett.* **417**, 114-118.

180. Walker, J. E. (1998). ATP synthesis by rotary catalysis. *Les Prix Nobel 1997.* The Nobel Foundation, Stockholm, Sweden. pp. 208-234.

181. Walker, J. E. (1998). ATP synthesis by rotary catalysis (Nobel Lecture). *Angewandte Chemie* *(Inter. Edn.)* **37,** 2308-2319.

182. Orriss, G. L., Leslie, A. G. W., Braig, K. & Walker, J. E. (1998). Bovine F1-ATPase covalently inhibited with 4-chloro-7-nitrobenzo-furazan: the structure provides further support for a rotary catalytic mechanism. *Structure,* **6,** 831-837.

183. Fiermonte, G., Palmieri, L., Dolce, V., Lasorsa, F. M., Palmieri, F. & Walker, J. E. (1998). The sequence, bacterial expression and functional reconstitution of the rat mitochondrial dicarboxylate carrier cloned via distant homologues in yeast and *Caenorhabditis elegans*. *J. Biol. Chem.* **273**, 24754-24759.

184. Skehel, J. M., Fearnley, I. M. & Walker, J. E. (1998). NADH:ubiquinone oxidoreductase from bovine mitochondria: sequence of a novel 17.2 kDa subunit. *FEBS Lett.* **438**, 301-305.

185. Karrasch, S. & Walker, J. E. (1999). Novel features in the structure of bovine ATP synthase. *J. Mol. Biol.* **290**, 379-384.

186. Leslie, A. G. W., Abrahams, J. P., Braig, K., Lutter, R, Menz, R. I. Orriss, G. L., van Raaij, M. J. & Walker, J. E. (1999). The structure of bovine mitochondrial F1-ATPase: an example of rotary catalysis. *Biochem. Soc. Trans.* **27**, 37-42.

187. Palmieri, L., Vozza, A., Agrini, G., De Marco, V., Runswick, M. J., Palmieri, F. & Walker, J. E. (1999). Identification of the yeast mitochondrial transporter for oxaloacetate and sulfate. *J. Biol. Chem.* **274**, 22184-22190.

188. Fiermonte, G., Dolce, V., Arrigoni, R., Runswick, M. J., Walker, J. E. & Palmieri, F. (1999). Organization and sequence of the gene for the human dicarboxylate carrier: evolution of the carrier family. *Biochem. J.* (1999) **344**, 953-960.

189. Stock, D., Leslie, A. G. W. & Walker, J. E. (1999). Molecular architecture of the rotary motor in ATP synthase. *Science*, **286**, 1700-1705.

190. Palmieri, L., Lasorsa, F. M., Iacobazzi, V., Runswick, M. J., Palmieri, F. & Walker, J. E. (1999). Identification of the mitochondrial carnitine carrier in *Saccharomyces cerevisiae*. *FEBS Lett.* **462**, 472-476.

191. Walker, J. E. & Miroux, B. (1999). Selection of *Escherichia coli* hosts that are optimized for overexpression of proteins. In: Manual of Industrial Microbiology and Biotechnology. pp 575-584. Second Edition. Edited by A. L. Demain and J. E. Davies. ASM Press. Washington D. C., U. S. A.

192. Palmieri, L., Runswick, M. J., Fiermonte, G., Walker, J. E. & Palmieri, F. (2000). Yeast mitochondrial carriers: bacterial expression, biochemical identification and metabolic significance. *J. Bioenerget. Biomembranes*, **32**, 67-77.

193. Leslie, A. G. W. & Walker, J. E. (2000). Structural model of F1-ATPase and the implications for rotary catalysis. *Phil. Trans. Roy. Soc. Lond. B*, **355**, 465-472.

194. Braig, K., Menz, R. I., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2000). Structure of bovine mitochondrial F1-ATPase inhibited by MgADP and aluminium fluoride. *Structure*, **8**, 567-573.

195. Sazanov, L., Peak-Chew, S. Y., Fearnley, I. M. & Walker, J. E. (2000). Resolution of the membrane domain of bovine complex I into subcomplexes: implications for the structural organization of the enzyme. *Biochemistry*, **39**, 7229-7235.

196. Cabezón, E., Butler, P. J. G., Runswick, M. J. & Walker J. E. (2000). Modulation of the oligomerization state of the bovine F1-ATPase inhibitor, IF1, by pH. *J. Biol. Chem.* **275**, 25460-25464.

197. Cabezón, E., Arrechaga, I., Butler, P. J. G. & Walker, J. E. (2000) Dimerization of bovine F1-ATPase by binding the inhibitor protein, IF1. *J. Biol. Chem.* **275**, 28353-28355.

198. Arechaga, I, Miroux, B., Karrasch, S., Huijbregts, R., de Kruiff, B. & Walker, J. E. (2000). Characterisation of new intracellular membranes in *Escherichia coli* accompanying large scale over-production of the b subunit of F1Fo-ATP synthase. *FEBS Lett.* **482**, 215-219.

199. Gibbons, C., Montgomery, M. G. Leslie, A. G. W. & Walker, J. E. (2000). The structure of the central stalk in bovine F1-ATPase at 2.4 Å resolution*. Nat. Struct. Biol*. **7**, 1055-1061.

200. Palmieri, F., Palmieri, L., Lasorsa, F. M., Vozza, A., Agrimi, G., Fiermonte, G., Runswick, M. J., & Walker, J. E. Identification and functions of new transporters in yeast mitochondria (2000). *Biochim. Biophys. Acta,* **1459**, 363-369.

201. Sazanov, L. A. & Walker, J. E. (2000). Cryo-electron crystallography of two sub-complexes of bovine complex I reveals the relationship between the membrane and peripheral arms. *J. Mol. Biol.* **302**, 455-464.

202. Stock, D., Gibbons, C., Arechaga, I., Leslie, A. G. W. & Walker, J. E. (2000). The rotary mechanism of ATP synthase. *Curr. Opin. Struct. Biol.* **10**, 672-679.

203. Palmieri, L., Agrimi, G., Runswick, M. J., Fearnley, I. M. Palmieri, F. & Walker, J. E. (2001). Identification in *Saccharomyces cerevisiae* of two isoforms of a novel mitochondrial transporter for 2-oxoadipate and 2-oxoglutarate. *J. Biol. Chem,* **276**, 1916-1922.

204. Dolce, V., Fiermonte, G., Runswick, M. J., Palmieri, F. & Walker, J. E. (2001). The human mitochondrial deoxynucleotide carrier and its role in toxicity of nucleoside antivirals. *Proc. Natl. Acad. Sci. U. S. A*. **98**, 2284-2288.

205. Fiermonte, G., Dolce, V., Palmieri, L., Ventura, M., Runswick, M. J., Palmieri, F. & Walker, J. E. (2001). Identification of the human mitochondrial oxodicarboxylate carrier: bacterial expression, reconstitution, functional characterization, tissue distribution and chromosomal location. *J. Biol. Chem.* **276**, 8225-8230.

206. Gordon-Smith, D. J., Carbajo, R. J., Yang, J. C., Videler, H., Runswick, M. J., Walker, J. E. & Neuhaus, D. (2001). Solution structure of a C-terminal coiled-coil domain from bovine IF1: the inhibitor protein of F1 ATPase. *J. Mol. Biol.* **308**, 325-339.

207. Menz, R. I., Leslie, A. G. W. & Walker, J. E. (2001). The structure and nucleotide occupancy of bovine mitochondrial F1-ATPase are not influenced by crystallisation at high concentrations ofnucleotide. *FEBS Lett*. **494**, 11-14.

208. Palmieri, L., Pardo, B., Lasorsa, F. M., del Arco, A., Kobayashi, K., Iijima, M., Runswick. M. J., Walker, J. E., Saheki, T., Satrústegui, J. & Palmieri, F. (2001). Citrin and aralar 1 are Ca2+- stimulated aspartate/glutamate transporters in mitochondria. *EMBO J.,* **20**, 5060-5069.

1. Menz, R. I., Walker, J. E & Leslie, A. G. W. (2001). The structure of bovine mitochondrial F1-ATPase with nucleotide bound to all three catalytic sites: implications for the mechanism of rotary catalysis. *Cell*, **106**, 331-341.

210. Fearnley, I. M., Carroll, J., Shannon, R. J., Runswick, M. J., Walker, J. E. & Hirst, J. (2001). GRIM-19, a cell death regulatory gene product, is a subunit of bovine mitochondrial NADH:ubiquinone oxidoreductase (complex I). *J. Biol. Chem*.**276**, 38345-38348.

211. Cabezón, E., Runswick, M. J., Leslie, A. G. W. & Walker, J. E. (2001). Structure of bovine IF1, the regulatory subunit of mitochondrial F-ATPase. *EMBO J.* **20**, 6990-6996.

212. Walker, J. E. (2001). Blueprint for a new age. *The Times Higher Education Supplement: 100 years of the Nobel,* **1518**, x-xi.

213. Arechaga, I., Butler, P. J. & Walker, J. E. (2002). Self-assembly of ATP synthase subunit *c* rings. *FEBS Lett*. **515**, 189-183.

214. Fiermonte, G., Palmieri, L., Todisco, S., Agrimi, G., Palmieri, F. & Walker, J. E. (2002). Identification of the mitochondrial glutamate transporter: bacterial expression, reconstitution, functional characterization and tissue distribution of two human isoforms. *J. Biol. Chem.* **277**, 19289-19294.

215. Ma, J., Flynn, T. C., Cui, Q., Leslie, A. G. W., Walker, J. E. & Karplus, M. (2002). A dynamic analysis of the rotation mechanism for conformational change in F1-ATPase. *Structure*, **10**, 921-931.

216. Rubinstein, J. L. & Walker, J. E. (2002). ATP synthase from *Saccharomyces cerevisiae*: location of the OSCP subunit in the peripheral stalk region. *J. Mol. Biol*. **321**, 613-619.

217. Roussel, D., Harding, M., Runswick, M. J., Walker, J. E. & Brand, M. D. (2002). Does any yeast mitochondrial carrier have a native uncoupling protein function? *J. Bioenerget. Biomembranes,* **34**, 165-175.

218. Cabezón, E., Butler, P. J. G., Runswick, M. J. & Walker, J. E. (2002). Homologous and heterologous inhibitory effects of ATPase inhibitor proteins on F-ATPases. *J. Biol. Chem*. **277**, 41334-41341.

1. Marobbio, C. M. T., Vozza, A., Harding, M., Bisaccia, F., Palmieri, F. & Walker, J. E. (2002). Identification and reconstitution of the yeast mitochondrial transporter for thiamine pyrophosphate. *EMBO J*. ***21***, 5653-5661.

220. Martinez, L. O., Jacquet, S., Esteve, J-P., Rolland, C., Cabezón, E., Champagne, E., Pineau, T., Georgeaud, V., Walker, J. E., Tercé, F., Collet, X., Perret, B. & Barbaras, R. (2003). Ectopic β-chain of ATP synthase is an apolipoprotein A-I receptor in hepatic HDL endocytosis. *Nature*, **421**, 72-79.

221. Carroll, J., Shannon, R. J., Fearnley, I. M., Walker, J. E. & Hirst, J. (2002). Definition of the nuclear encoded protein composition of bovine heart mitochondrial complex I: identification of two new subunits. *J. Biol. Chem.* **277**, 50311-50317.

222. Rubinstein, J. L., Holt, L. J., Walker, J. E. & Tomlinson, I. M. (2003). Use of phage display and high-density screening for the isolation of an antibody against the 51 kDa subunit of complex I. *Anal. Biochem*. **314**, 294-300.

223. Smith, V. R. & Walker, J. E. (2003). Purification and refolding of recombinant bovine oxoglutarate/malate carrier by immobilized metal-ion affinity chromatography. *Protein Expr. Purif.* **29**, 209-216.

224. Carroll, J., Fearnley, I. M., Shannon, R. J., Hirst, J. & Walker, J. E. (2003). Analysis of the subunit composition of complex I from bovine heart mitochondria. *Mol. Cell. Proteomics*, **2,** 117-126.

225. Murata, T., Arechaga, I., Fearnley, I. M., Kakinuma, Y., Yamato, I. & Walker, J. E. (2003). The membrane domain of the Na+-motive V-ATPase from *Enterococcus hirae* contains a heptameric rotor. *J. Biol. Chem*. **278**, 21162-21167.

226. Hirst, J., Carroll, J., Fearnley, I. M., Shannon, R. J. & Walker, J. E. (2003). The nuclear encoded subunits of complex I from bovine heart mitochondria. *Biochim. Biophys. Acta*, **1604**, 135-150.

227. Fiermonte, G., Dolce, V., David, L., Santorelli, F. M., Dionsi-Vici, C., Palmieri, F. & Walker, J. E. (2003). The mitochondrial ornithine transporter: bacterial expression, reconstitution, functional characterization, and tissue distribution of two human isoforms. *J. Biol. Chem*. **278**, 32778-32783.

228. Cabezón, E., Montgomery, M., Leslie, A. G. W. & Walker, J. E. (2003). The structure of bovine F1-ATPase in complex with its regulatory protein, IF1. *Nat. Struct. Biol.* **10**, 744-750.

229. Arechaga, I., Miroux, B., Runswick, M. J. & Walker, J. E. (2003). Over-expression of *Escherichia coli* F1Fo-ATPase subunit a is inhibited by instability of the *unc*B gene transcript. *FEBS Lett*. **547**, 97-100.

230. Smith, V. R., Fearnley, I. M. & Walker, J. E. (2003). Altered chromatographic behaviour of mitochondrial ADP/ATP translocase induced by stablisation of the protein by binding of 6´-*O*-fluorescein-atractyloside. *Biochem. J*. **376**, 575-763.

231. Rubinstein, J. L., Walker, J. E. & Henderson, R. (2003). The structure of the mitochondrial ATP synthase by electron cryomicroscopy. *EMBO J.* **22**, 6182-6192.

232. Cavero, S., Vozza, A., del Arco, A., Palmieri, L., Villa, A., Blanco, E., Runswick, M. J., Walker, J. E., Cerdan, S., Palmieri, F. & Satrustegui, J. (2003). Identification and metabolic role of the mitochondrial aspartate-glutamate transporter in *Saccharomyces cerevisiae*. *Mol. Microbiol*. **50**, 1257-1269.

233. Chen, R., Fearnley, I. M., Palmer, D. N. & Walker, J. E. (2004). Lysine 43 is trimethylated in subunit c from bovine mitochondrial ATP synthase and in storage bodies associated with Batten disease. *J. Biol. Chem*. **279**, 21883-21887.

234. Chen, R., Fearnley, I. M., Peak-Chew, S. Y. & Walker, J. E. (2004). The phosphorylation of subunits of complex I from bovine heart mitochondria. *J. Biol. Chem*. **279**, 26036-26045.

235. Kagawa, R., Montgomery, M. G., Braig, K., Leslie, A. G. W. & Walker, J. E. (2004). The structure of bovine F1-ATPase inhibited by ADP and beryllium fluoride. *EMBO J*. **23**, 2734-2744.

236. Mueller, D.M., Puri, N., Kabaleeswaran, V., Terry, C., Leslie, A. G. W. & Walker, J. E. (2004). Crystallization and preliminary crystallographic studies of the mitochondrial F1-ATPase from the yeast *Saccharomyces cerevisiae*. *Acta Crystallogr.* D, **60**, 1441-1444.

237. Carbajo, R. J., Silvester, J. A., Runswick, M. J., Walker, J. E. & Neuhaus, D. (2004). Solution structure of subunit F6 from the peripheral stalk region of ATP synthase from bovine heart mitochondria. *J. Mol. Biol*. **342**, 593-603.

238. Mueller, D. M., Puri, N., Kabaleeswaran, V., Terry, C., Leslie, A. G. W. & Walker, J. E. (2004). Ni-chelate-affinity purification and crystallization of the yeast mitochondrial F1-ATPase. *Protein Expr. Purif*. **37**, 479-485.

239. Rubinstein, J. L., Dickson, V. K., Runswick, M. J. & Walker, J. E. (2005). ATP synthase from *Saccharomyces cerevisiae*: location of subunit h in the peripheral stalk region. *J. Mol. Biol*. **345**, 513-520.

240. Gledhill, J. R. & Walker, J. E. (2005). Inhibition sites in F1-ATPase from bovine heart mitochondria. *Biochem. J*. **386**, 591-598.

241. Carroll, J., Fearnley, I. M., Skehel, J. M., Runswick, M. J., Shannon, R. J., Hirst, J. & Walker, J. E. (2005). The post-translational modifications of the nuclear encoded subunits of complex I from bovine heart mitochondria. *Mol. Cell. Proteomics,* **4**, 693-699.

242. Murata, T., Yamato, I., Kakinuma, Y., Leslie, A. G. W. & Walker, J. E. (2005). Structure of the membrane rotor of the V-type Na+-ATPase from *Enterococcus hirae. Science*, **308**, 654-659.

243. Walker, J. E. & Gledhill, J. R. (2005). Inhibitors of mitochondrial ATPase. In *Biophysical and Structural Aspects of Bioenergetics*. (Wikström, M. ed). pp. 334-358. Royal Society of Chemistry.

244. Carbajo, R. J., Kellas, F. A., Runswick, M. J., Montgomery, M. G., Walker, J. E. & Neuhaus, D. (2005). Structure of the F1-binding domain of the stator of bovine F1Fo-ATPase and how it binds an alpha-subunit. *J. Mol. Biol*. **351**, 824-838.

245. Cronan, J. E., Fearnley, I. M. & Walker, J. E. (2005). Mammalian mitochondria contain a soluble acyl carrier protein. *FEBS Lett*. **579**, 4892-4896.

246. Bowler, M. W., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2006). How azide inhibits ATP hydrolysis by the F-ATPases. *Proc. Natl. Acad. Sci. U.S.A.* **103**, 8646-8649.

247. Silvester, J. A., Kane Dickson, V., Runswick, M. J., Leslie, A. G. W. & Walker, J. E. (2006). The expression, purification, crystallization and preliminary X-ray analysis of a subcomplex of the peripheral stalk of ATP synthase from bovine mitochondria. *Acta Crystallogr.* F, **62**, 530-533.

248. Bowler, M. W., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2006). Reproducible improvements in order and diffraction limit of crystals of bovine mitochondrial F1-ATPase by controlled dehydration. *Acta Crystallogr.* D, **62**, 991-995.

249. Walker, J. E. & Kane Dickson, V. (2006). The peripheral stalk of the mitochondrial ATP synthase. *Biochim. Biophys. Acta*, **1757**, 286-296.

250. Kane Dickson, V., Silvester, J. A., Fearnley, I. M., Leslie, A. G. W. & Walker, J. E. (2006). On the structure of the stator of the mitochondrial ATP synthase. *EMBO J*. **25**, 2911-2918.

251. Palmieri, F., Agrimi, G., Blanco, E., Castegna, A., Di Noia, M. A., Iacobazzi, V., Lasorsa, F. M., Marobbio, C. M. T., Palmieri, L., Scarcia, P., Todisco, S. Vozza, A. & Walker, J. (2006). Identification of mitochondrial carriers in *Saccharomyces cerevisiae* by transport assay of reconstituted recombinant proteins. *Biochim. Biophys. Acta*, **1757**, 1249-1262.

252. Walker, J. E., Klug, A., Brenner. S., Horwitz, R. H., Hunt, T., Mansfield, P., Nurse, P., Sulston, J., Sanger, F. & Watson, J. D. (2006). Securing our place in worldwide research. *The Times*, May 22, 2006.

253. Fearnley, I. M., Carroll, J. & Walker, J. E. (2006). Proteomic analysis of the subunit composition of complex I (NADH:ubiquinone oxidoreductase) from bovine heart mitochondria. In *Methods in Molecular Biology.* (Vivanco, F. ed). pp. 103-125. Humana Press Inc., Totowa, N. J., U. S. A.

254. Gledhill, J. R. & Walker, J. E. (2006). Inhibitors of the catalytic domain of mitochondrial ATP synthase. *Biochem. Soc. Trans*. **34**, 993-996.

255. Carroll, J., Fearnley, I. M. & Walker, J. E. (2006). Definition of the mitochondrial proteome by measurement of molecular masses of membrane proteins. *Proc. Natl. Acad. Sci. U. S. A.* **103**, 16170-16175.

256. Carroll, J., Fearnley, I. M., Skehel, J. M., Shannon, R. J., Hirst, J. & Walker, J. E. (2006). Bovine complex I is a complex of 45 different subunits. *J. Biol. Chem*. **281**, 32724-32727.

257. Kabaleeswaran, V., Puri, N., Walker, J. E., Leslie, A. G. W. & Mueller, D. (2006). Novel features of the rotary catalytic mechanism revealed in the structure of yeast F1-ATPase. *EMBO J*. **25**, 5433-5442.

258. He, J., Mao, C. C., Reyes, A., Sembongi, H., Di Re, M., Granycome, C., Clippingdale, A. B., Fearnley, I. M., Harbour, M., Robinson, A. J., Reichelt, S., Spelbrink, J. N., Walker, J. E. & Holt, I. J. (2007). The AAA+ protein ATAD3 has displacement loop binding properties and is involved in mitochondrial nucleoid organization. *J. Cell. Biol*. **176**, 141-146.

259. Bowler, M. W., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2007). Ground state structure of F1-ATPase from bovine heart mitochondria at 1.9 Å resolution. *J. Biol. Chem*. **282**, 14238-14242.

260. Carbajo, R. J., Kellas, F. A., Yang, J-C., Runswick, M. J., Montgomery, M. G., Walker, J. E. & Neuhaus, D. (2007). How the N-terminal domain of the OSCP subunit of bovine F1Fo-ATPase interacts with the N-terminal region of an alpha subunit. *J. Mol. Biol*. **368**, 310-318.

261. Boerries, M., Most, P., Gledhill, J. R., Walker, J. E., Katus, H. A., Koch, W. J., Hein, L., Aebi, U. & Schoenenberger, C. A. (2007). The Ca2+-dependent interaction of S100A1 with the F1-ATPase leads to an increased ATP content in cardiomyocytes. *Mol. Cell. Biol*. **27**, 4365-4373.

262. Chen, R., Runswick, M. J., Carroll, J. G., Fearnley, I. M. & Walker, J. E. (2007). Association of two proteolipids of unknown function with ATP synthase from bovine heart mitochondria. *FEBS Lett*. **581**, 3145-3148.

263. Gledhill, J. R., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2007). Mechanism of inhibition of bovine F1-ATPase by resveratrol and related polyphenols. *Proc. Natl. Acad. Sci. U. S. A*. **104**, 13632-13637.

264. Carroll, J., Altman, M. C., Fearnley, I. M. & Walker, J. E. (2007). Identification of membrane proteins by tandem mass spectrometry of protein ions. *Proc. Natl. Acad. Sci. U. S. A*. **104**, 14330-14335.

265. Gledhill, J. R., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2007). How the regulatory protein, IF1, inhibits F1-ATPase from bovine mitochondria. *Proc. Natl. Acad. Sci. U. S. A*. **104**, 15671-15676.

266. Murata, T., Yamato, I., Kakinuma, Y., Shirouzu, M., Walker, J. E., Yokoyama, S. & Iwata, S. (2008). Ion binding and selectivity of the rotor ring of the Na+-transporting V-ATPase. *Proc. Natl. Acad. Sci. U. S. A.* **105**, 8607-8612.

267. Kabaleeswaran, V., Shen, H., Symersky, J., Walker, J. E., Leslie, A. G. W. & Mueller, D. M. (2009). Asymmetric structure of the yeast F1-ATPase in the absence of bound nucleotides. *J. Biol. Chem.* **284**, 10546-10551.

268. Walker, J. E., Carroll, J., Altman, M. C. & Fearnley, I. M. (2009). Mass spectrometric characterization of the thirteen subunits of bovine respiratory complexes that are encoded in mitochondrial DNA. *Meth. Enzymol.* **456**, 111-131.

269. Carroll, J., Fearnley, I. M., Wang, Q. & Walker, J. E. (2009). Measurement of the molecular masses of hydrophilic and hydrophobic subunits of ATP synthase and complex I in a single experiment. *Anal. Biochem*. **395**, 249-255.

270. Rees, D. M., Leslie, A. G. W. & Walker, J. E. (2009). The structure of the membrane extrinsic region of bovine ATP synthase. *Proc. Natl. Acad. Sci. U. S. A*. **106**, 21597-21601.

271. Watt, I. N., Montgomery, M. G., Runswick, M. J., Leslie, A. G. W. & Walker, J. E. (2010). Bioenergetic cost of making an adenosine triphosphate molecule in animal mitochondria. *Proc. Natl. Acad. Sci. U. S. A*. **107**, 16823-16827.

272. Bason, J. V., Runswick, M. J., Fearnley, I. M. & Walker, J. E. (2011). Binding of the inhibitor protein IF1 to bovine F1-ATPase. *J. Mol. Biol*. **406**, 443-453.

273. Mizutani, K., Yamamoto, M., Suzuki, K., Yamato, I., Shirouzu, M., Walker. J. E., Yokoyama, S., Iwata, S. & Murata, T. (2011). Structure of the rotor ring modified with N, N’-dicyclohexylcarbodiimide of the Na+-transporting vacuolar ATPase. *Proc. Natl. Acad. Sci. U. S. A.* **108**, 13474-13479.

274. Reyes, A., He. J., Mao, C. C., Bailey, L. J., Di Re, M., Sembongi, H., Kazak, L., Dzionek, K., Holmes, J. N., Cluett, T. J., Harbour, M. E., Fearnley, I. M., Crouch, R. J., Conti, M. A., Adelstein, R. S., Walker, J. E. & Holt, I. J. (2011). Actin and myosin contribute to mammalian mitochondrial DNA maintenance. *Nucleic Acids Res*. **39**, 5098-5108.

275. He, J., Cooper, H. M., Reyes, A., Di Re, M., Kazak, L., Wood, S. R., Mao, C. C., Fearnley, I. M., Walker, J. E. & Holt, I. J. (2012). Human C4orf14 interacts with the mitochondrial nucleoid and is involved in the biogenesis of the small mitochondrial ribosomal subunit. *Nucleic Acids Res*. **40**, 6097-6108.

276. He, J., Cooper, H. M., Reyes, A., Di Re, M., Sembongi, H., Litwin, T. R., Gao, J., Neuman, K. C., Fearnley, I. M., Spinazzola, A., Walker, J. E. & Holt, I. J. (2012). Mitochondrial nucleoid interacting proteins support mitochondrial protein synthesis. *Nucleic Acids Res*. **40**, 6109-6121.

277. Rees, D. M., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2012). Structural evidence of a new catalytic intermediate in the pathway of ATP hydrolysis by F1-ATPase from bovine heart mitochondria. *Proc. Natl. Acad. Sci. U. S. A*. **109**, 11139-11143.

278. Baker, L. A., Watt, I. N., Runswick, M. J., Walker, J. E. & Rubinstein, J. L. (2012). Arrangement of subunits in intact mammalian mitochondrial ATP synthase determined by cryo-EM. *Proc. Natl. Acad. Sci. U. S. A*. **109**, 11675-11680.

279. Narendra, D., Walker, J. E. & Youle, R. (2012). Mitochondrial quality control mediated by PINK1 and Parkin: *Links to Parkinsonism. In Cold Spring Harbor Perspectives in Biology* (Wallace, D. C & Youle, R., Eds.), **4**, 1-19. Cold Spring Harbor.

280. Narendra, D., Youle, R. & Walker, J. E. (2012). PINK1 rendered temperature sensitive by disease-associated and engineered mutations. *Hum. Mol. Gen*. **22**, 2572-2589.

281. Walker, J. E. (2013). The F-ATPases. In *Encyclopedia of Biological Chemistry*, (Lennarz, W. & Lane, M., Eds.) Elsevier. **2**, 69-274.

282. Walker, J. E. (2013). The Keilin Lecture 2012: The ATP synthase: the understood, the uncertain and the unknown. *Biochem. Soc. Trans*. **41**, 1-16.

283. Runswick, M. J., Bason, J. V., Montgomery, M. G., Robinson, G. C., Fearnley, I. M. & Walker, J. E. (2013). The affinity purification and characterization of ATP synthase complexes from mitochondria. *Open Biol*. **3**, 1-9.

284. Robinson, G. C., Bason, J. V., Montgomery, M. G., Fearnley, I. M., Mueller, D. M., Leslie, A. G. W. & Walker, J. E. (2013). The structure of F1-ATPase from *Saccharomyces cerevisiae* inhibited by its regulatory protein IF1. *Open Biol.* **3***,*rsob.120164.

285. Carroll, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2013). Post-translational modifications near the quinone binding site of mammalian complex I. *J. Biol. Chem.* **288**, 24799-24808.

286. Rhein, V. F., Carroll, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2013). NDUFAF7 methylates arginine-85 in the NDUFS2 subunit of human complex I. *J. Biol. Chem*. **288**, 33016-33026.

287. Andrews, B., Carroll, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2013). Assembly factors for the membrane arm of human complex I. *Proc. Natl. Acad. Sci. U. S. A*. **110**,18934-18939.

288. Walker, J. E. (2014) Obituary comment, Frederick Sanger (1918-2013), Double Nobel-prizewinning genomics pioneer. *Nature,* **505**, 27.

289. Bason, J. V., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2014). Pathway of binding of the intrinsically disordered mitochondrial inhibitor protein to F1-ATPase. *Proc. Natl. Acad. Sci. U. S. A*. **11**, 11305-11310.

290. Rhein, V. F., Carroll, J., He, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2014). Human METTL20 methylates lysine residues adjacent to the recognition loop of the electron transfer flavoprotein in mitochondria. *J. Biol. Chem.* **289**, 24640-24651.

291. Vassilopoulos, A., Pennington, J. D., Andresson, T., Rees, D. M., Bosley, A. D., Fearnley, I. M., Ham, A., Flynn, C. R., Hill, S., Rose, K. L., Kim, H-S., Deng, C-X., Walker, J. E. & Gius, D. (2014). SIRT3 deacetylates ATP synthase F1 complex proteins in response to nutrient and exercise-induced stress. *Antiox. Redox. Signal. U. S. A*. **21**, 551-564.

292. Walpole, T. B., Palmer, D. N., Jiang, H., Ding, S., Fearnley, I. M. & Walker, J. E. (2015). Conservation of complete trimethylation of lysine-43 in the rotor ring of c-subunits of metazoan ATP synthases. *Mol. Cell. Proteomics*, **14**, 828-840.

293. Lee, J., Ding, S. J., Walpole, T. B., Holding, A. N., Montgomery, M. G., Fearnley, I. M. & Walker, J. E. (2015). Organisation of subunits in the membrane domain of the bovine F-ATPase revealed by covalent cross-linking. *J. Biol. Chem.* **290**, 13308-13320.

294. Liu, S., Charlesworth, T. J., Bason, J. V., Montgomery, M. G., Harbour, M. E., Fearnley, I. M. & Walker, J. E. (2015). The purification and characterization of ATP synthase complexes from the mitochondria of four fungal species. *Biochem*. *J.* **668**, 167-175.

295. Lindinger, P. W., Christe, M., Eberle, A. N., Kern, B., Peterli, R., Peters, T., Jayawardene, K. J. I., Fearnley, I. M. & Walker, J. E. (2015). Important mitochondrial proteins in human omental adipose tissue show reduced expression in obesity. *J. Proteomics*. **124**, 80-87.

296. Águila-Arcos, S., Ding, S., Aloria, K., Arizmendi, J. M., Fearnley, I. M., Walker, J. E., Goñi, F. M. & Alkorta, I. (2015). A commensal strain of *Staphylococcus epidermis* overexpresses membrane proteins associated with pathogenesis when grown in biofilms. *J. Membr. Biol*. **248**, 431-442.

297. Bason, J. V., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2015). How release of phosphate from mammalian F1-ATPase generates a rotary substep. *Proc. Natl. Acad. Sci. U. S. A*. **112**, 6009-6014.

298. Morales-Rios, E., Montgomery M. G., Leslie, A. G. W., García**-**Trejo, J. J. & Walker, J. E. (2015). Structure of a catalytic dimer of the α- and β-subunits of the F-ATPase from *Paracoccus denitrificans* at 2.3 Å resolution*. Acta Crystallogr.* F, **71,** 1309-1317*.*

299. Morales-Rios, E., Watt, I. N., Zhang Q., Ding, S., Fearnley, I. M., Montgomery, M. G., Wakelam, M. J. O. & Walker, J. E. (2015). Purification, characterization and crystallization of the F-ATPase from *Paracoccus denitrificans. Open Biol.* **5**, 150119.

300. Zhou, A., Rohou, A., Schep, D. G., Bason, J. V., Montgomery, M. G., Walker, J. E., Grigorieff, N. & Rubinstein, J. L. (2015). Structure and conformational states of the bovine mitochondrial ATP synthase by cryo-EM. *eLife.* 4.

301. Morales-Rios, E., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2015). Structure of ATP synthase from *Paracoccus denitrificans* determined by X-ray crystallography at 4.0 Å resolution. *Proc. Natl. Acad. Sci. U. S. A.* **112**, 13231-13236.

302. Rhein, V. E., Carroll, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2016). NUDFAF5 hydroxylates NDUFS7 at an early stage in the assembly of human complex I. *J. Biol. Chem.* **291**, 14851-14860.

303. Duncan, A. L., Robinson, A. J. & Walker, J. E. (2016). Cardiolipin binds selectively but transiently to conserved lysine residues in the rotor of metazoan ATP synthases. *Proc. Natl. Acad. Sci. U. S. A*. **112**, 8687-8692.

304. Ferguson, S. A., Cook, G. M., Montgomery, M. G., Leslie, A. G. W. & Walker, J. E. (2016). Regulation of the thermoalkaliphilic F1-ATPase from *Caldalkalibacillus thermarum*. *Proc. Natl. Acad. Sci. U. S. A*. **113**, 10860-10865.

305. Vinothkumar, K. R., Montgomery, M. G., Liu, S. & Walker, J. E. (2016). Structure of the mitochondrial ATP synthase from *Pichia angusta* determined by electron cryo-microscopy. *Proc. Natl. Acad. Sci. U. S. A.* **113**, 12709-12714.

306. He, J., Ford, H. C., Carroll, J., Ding, S., Fearnley, I. M. & Walker. J. E. (2017). Persistence of the mitochondrial permeability transition in the absence of subunit c of human ATP synthase. *Proc. Natl. Acad. Sci. U. S. A.* **114**, 3409-3014.

307. Rhein, V. F., Carroll, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2017). Human METTL12 is a mitochondrial methyltransferase that modifies citrate synthase. *FEBS Lett.* **591**, 1641-1652.

308. He, J., Carroll, J., Ding, S., Fearnley, I. M. & Walker. J. E. (2017). Permeability transition in human mitochondria persists in the absence of peripheral stalk subunits of ATP synthase. *Proc. Natl. Acad. Sci. U. S. A.* **114**, 9086-9091.

309. Walker, J. E. (2017). Structure, mechanism and regulation of ATP synthases. In: *Mechanisms of primary energy transduction in biology.* (M. Wikström, Ed). The Royal Society of Chemistry, pp 338-373.

310. Gahura, O., Šubrtová, K., Váchová, H., Panicucci, B., Fearnley, I. M., Harbour, M. E., Walker, J. E. & Zíková, A. (2018). The F1-ATPase from *Trypanosoma brucei* is elaborated by three copies of an additional p18-subunit. *FEBS J.* **285**, 614-628.

311. Montgomery, M. G., Gahura, O., Leslie, A. G. W., Zíková, A. & Walker, J. E. (2018). ATP synthase from *Trypanosoma brucei* has an elaborated canonical F1-domain and conventional catalytic sites. *Proc. Natl. Acad. Sci. U. S. A.* **115**, 2102-2107.

312. He, J., Ford, H. C., Carroll, J., Douglas, C., Gonzales, E., Ding, S., Fearnley, I. M. & Walker, J. E. (2018). Assembly of the membrane domain of human ATP synthase. *Proc. Natl. Acad. Sci. U. S. A.* **115***,* 2988-2993.

313. Gahura, O., Šubrtová, K., Váchová, H., Panicucci, B., Harbour, M. E., Walker, J. E. & Zíková, A. (2018). Inhibition of F1-ATPase from *Trypanosoma brucei* by its regulatory protein inhibitor TbIF1. *FEBS J.* **41**, 1-11.

314. Zhang, A. T., Montgomery, M. G., Leslie, A. G. W., Cook, G. M. & Walker, J. E. (2019). Structure of the catalytic domain of the ATP synthase from *Mycobacterium smegmatis* provides a target for development of anti-tubercular drugs. *Proc. Natl. Acad. Sci. U. S. A.* **115**, 4206-4211.

316. Boreikaite, V., Wicky, B. M., Watt, I. M., Clarke, J. & Walker, J. E. (2019) Extrinsic conditions influence the self-association and structure of IF1, the regulatory protein of mitochondrial ATP synthase. *Proc. Natl. Acad. Sci. U. S. A.* **116**, 10354-10359.

317. Petri, J., Nakatani, Y., Montgomery, M. G., Ferguson, S. A., Aragão, D., Leslie, A. G. W., Heikal, A., Walker, J. E & Cook, G. M. (2019) Structure of F1-ATPase from the obligate anaerobe *Fusobacterium nucleatum*. *Open Biol.* **9**, 190066.

318. Walker, J. E., He, J. & Carroll, J. (2019). Modular assembly of ATP synthase. In: "*Oxygen production and reduction in artificial and natural systems*". (Barber, J., Ruban, A. V. & Nixon, P. J. Eds). World Scientific Press, London & Singapore, pp 119-134.

319. Carroll, J., He, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2019). Persistence of the permeability transition pore in human mitochondria devoid of an assembled ATP synthase. *Proc. Natl. Acad. Sci. U. S. A.* **116**, 12816-12821.

320. Hirst, J., Kunji, E. R. S. & Walker, J. E. (2019). Comment on "Protein assemblies ejected directly from native membranes yield complexes for mass spectrometry". *Science*, doi: 10.1126/science.aaw9830 (2019).

321. He, J., Carroll, J., Ding, S., Fearnley, I. M., Montgomery, M. G. & Walker, J. E. (2020). Assembly of the peripheral stalk of ATP synthase in human mitochondria. *Proc. Natl. Acad. Sci. U. S. A.* **117**, 12816-12821.

322. Spikes, T. E., Montgomery, M. G. & Walker, J. E. (2020). Structure of dimeric ATP synthase from bovine mitochondria. *Proc. Natl. Acad. Sci. U. S. A.* **117**, 23519-23526.

323. Spikes, T. E., Montgomery, M. G. & Walker, J. E. (2021). Interface mobility between monomers in dimeric bovine ATP synthase participates in the ultrastructure of inner mitochondrial membranes. *Proc. Natl. Acad. Sci. U. S. A.* **118**, e2021012118; <https://doi.org/10.1073/pnas.2021012118>

324. Carroll, J., He, J., Ding, S., Fearnley, I. M. & Walker, J. E. (2021). TMEM70 and TMEM242 help to assemble the rotor ring of human ATP synthase and interact with assembly factors for complex I. *Proc. Natl. Acad. Sci. U. S. A.* **118**, e2100558118. <https://doi.org/10.1073/pnas.2100558118>

325. Carroll, J., Watt, I. N., Wright, C. J., Ding, S., Fearnley, I. M., & Walker, J. E. (2024). The inhibitor protein IF1 from mammalian mitochondria inhibits ATP hydrolysis but not ATP synthesis by the ATP synthase complex. *J. Biol. Chem.* **300**, 105690.

326. Tavoulari, S., Lacabanne, D., Pereira, G. C., Thangaratnarajah, C., King, M. S., He, J., Chowdhury, R., Tilokani, L., Palmer, S. M., Prudent, J., Walker, J. E., & Kunji, E. R. S. (2024). Distinct roles for the domains of the mitochondrial aspartate/glutamate carrier citrin in organellar localization and substrate transport. *Mol. Metabol.* In the press.

327. Walker, J. E. My path to citrin deficiency (2024). *J Inherit Metab Dis*. 2024;1‐12.doi: 10.1002/jimd.12818