

Michael Jonathan Davies  
Professor  
Section of Cellular and Metabolic Research

## Short presentation

Prof. Michael Davies has pioneered studies on the formation and subsequent reactions of oxidants and other reactive species with proteins, DNA and carbohydrates, and the role of such reactions in biological damage. Recent publications are given at the "Publications" tab above.

His group made major contributions to the field of oxidants and oxidative damage. His work on protein modification and the detection and reactions of reactive intermediates is recognised nationally and internationally and has resulted in a number of significant awards, his editorship of journals and his election to a number of prestigious leadership positions in scientific societies.

He has held three prestigious fellowships from the Australian Research Council (QE2, Senior and Professorial), was Director of a (~25 million US\$ per annum turnover) research institute, and led the Sydney (Australia) node of a highly-successful Australian Research Council Centre of Excellence in Free Radical Chemistry and Biotechnology (2006-2013) before moving to the University of Copenhagen, in 2014, after being awarded a Novo Nordisk Laureate research grant. Prof. Davies has published 304 peer-reviewed journal articles, 1 book, 8 edited volumes, 25 book chapters and 5 patents. His work has been cited ~ 15,330 times as of March 2015 (ISI Web of Science). He has an h-index of 61 (ISI Web of Science) and an m-index (h index divided by number of years since first paper published) of ~2. His work is currently attracting > 1000 citations per year and he averages > 52 citations per paper.

## Selected Activities and Awards

Award recipient:

**Lifetime Achievement Award, Society for Free Radical Research-India**  
2014

Award recipient:

**Informa Lecturer, SFRR-Asia**  
2013

Chair:

**President, Society for Free Radical Research International**  
2013 - 2014

Member of Editorial Board:

**Redox Biology**  
2013

Member of Editorial Board:

**Biomedical Spectroscopy and Imaging**  
2012

Board member:

**Director and Board Member, Heart Research Institute**  
2012 - 2014

Award recipient:

**Distinguished Service Award, Society for Free Radical Research-Australia**  
2012

Member of Editorial Board:

**Toxicology Research**  
2012

Chair:

**President-Elect, Society for Free Radical Research International**  
2011 - 2012

Chair:

**Chairperson, Biomedical Science and Biotechnology Committee, Australian Institute of Nuclear Science and Engineering**  
2010 - 2014

Editor:

**Associate Editor, Photochemistry and Photobiology**  
1 Jan 2009

Editor:

**Biochemical Journal**  
1 Jan 2009

Editor:

**Editor in Chief, Free Radical Research**  
1 Jan 2009

Award recipient:

**Australian Research Council Professorial Fellowship**  
2009 - 2013

Award recipient:

**Distinguished Service Award, Asia-Pacific EPR Society**  
2008

Board member:

**Vice-President, International EPR Society**  
2008 - 2011

Award recipient:

**John Wilberforce Lothian Award for excellence in research of the National Heart Foundation**  
2007

Award recipient:

**Piette Memorial Lecture, 49th Rocky Mountain Analytical Conference**  
2007

Secretary:

**Secretary-General, Society for Free Radical Research International**  
2007 - 2010

Award recipient:

**Archibald Olle Prize of the Royal Australian Chemical Institute**  
2006

Member of Editorial Board:

**Journal of Clinical Biochemistry and Nutrition**  
2006

Board member:

**Council member, American Society for Photobiology**  
2005 - 2008

Member:

**International Committee member, Oxygen Club of California**  
2005

Board member:

**Management Committee, Australian Research Council Centre of Excellence in Free Radical Chemistry and Biotechnology**  
2005 - 2013

Award recipient:

**Aniko Whealy Research Award of the National Heart Foundation**  
2004

Award recipient:

**Fellow, Royal Australian Chemical Institute (FRACI)**  
2004

Member of Editorial Board:

**Chemical Research in Toxicology**  
2003 - 2005

Secretary:

**Secretary and Public Officer, Mutagenesis and Experimental Pathology Society Australasia**  
2003 - 2005

Award recipient:

**Silver Medal of the International EPR Society for Biology/Medicine**  
2003

Award recipient:

**Chartered Chemist (C. Chem.)**  
2002

Board member:

**Council member, Mutagenesis and Experimental Pathology Society Australasia**  
2002 - 2007

Board member:

**Deputy Director, The Heart Research Institute**  
2001 - 2012

Chair:

**President, Society for Free Radical Research (Australasia)**  
2001 - 2003

Member of Editorial Board:

**Spectroscopy**  
2001 - 2012

Award recipient:

**Australian Research Council Senior Fellowship**  
2000 - 2005

Member of Editorial Board:

**Free Radical Biology and Medicine**  
2000

Member of Editorial Board:

**Free Radical Research**  
2000

Chair:

**President-Elect, Society for Free Radical Research (Australasia)**  
1999 - 2001

Member of Editorial Board:

**Biochemical Journal**  
1 Jan 1998

Award recipient:

**Australian Research Council Queen Elizabeth 2 Fellowship**  
1996 - 2000

Member of Editorial Board:

**Redox Report**

1994

Editor:

**Royal Society of Chemistry, ESR/EPR Specialist Periodical Reports**

1993 - 2008

Member:

**Royal Society of Chemistry, ESR Group Committee**

1992 - 1995

Board member:

**Society for Free Radical Research, European Committee**

1992 - 1994

## Bibliographic data

Prof. Davies has published 304 peer-reviewed journal articles, 1 book, 8 edited volumes, 25 book chapters and 5 patents. His work has been cited ~ 15,330 times as of March 2015 (ISI Web of Science). He has an h-index of 62 (ISI Web of Science) and an m-index (h index divided by number of years since first paper published) of ~2. His work is currently attracting > 1000 citations per year and he averages > 52 citations per paper.

## Publications (2005 onwards only)

- Protein cysteine oxidation in redox signaling: Caveats on sulfenic acid detection and quantification**  
Forman, H. J., Davies, M. J., Krämer, A. C., Miotto, G., Zaccarin, M., Zhang, H. & Ursini, F. 1 Mar 2017 In : Archives of Biochemistry and Biophysics. 617, p. 26-37 12 p.
- 1,4-Anhydro-4-seleno-d-talitol (SeTal) protects endothelial function in the mouse aorta by scavenging superoxide radicals under conditions of acute oxidative stress**  
Ng, H. H., Leo, C. H., O'Sullivan, K., Alexander, S-A., Davies, M. J., Schiesser, C. H. & Parry, L. J. 24 Dec 2016 In : Biochemical pharmacology.
- Changes in mitochondrial homeostasis and redox status in astronauts following long stays in space**  
Indo, H. P., Majima, H. J., Terada, M., Suenaga, S., Tomita, K., Yamada, S., Higashibata, A., Ishioka, N., Kanekura, T., Nonaka, I., Hawkins, C. L., Davies, M. J., Clair, D. K. S. & Mukai, C. 16 Dec 2016 In : Scientific Reports. 6, p. 39015
- Reactivity of disulfide bonds is markedly affected by structure and environment: implications for protein modification and stability**  
Karimi, M., Ignasiak, M. T., Chan, B., Croft, A. K., Radom, L., Schiesser, C. H., Pattison, D. I. & Davies, M. J. 12 Dec 2016 In : Scientific Reports. 6, 12 p., 38572
- Cross-linking of lens crystallin proteins induced by tryptophan metabolites and metal ions: implications for cataract development**  
Tweeddale, H. J., Hawkins, C. L., Janmie, J. F., Truscott, R. J. W. & Davies, M. J. Oct 2016 In : Free Radical Research. 50, 10, p. 1116-1130 15 p.
- Peroxynitrite-mediated oxidation of plasma fibronectin**  
Degendorfer, G., Chuang, C. Y., Kawasaki, H., Hammer, A., Malle, E., Yamakura, F. & Davies, M. J. Aug 2016 In : Free Radical Biology & Medicine. 97, p. 602-615 14 p.
- The myeloperoxidase-derived oxidant hypothiocyanous acid inhibits protein tyrosine phosphatases via oxidation of key cysteine residues**  
Cook, N. L., Moeke, C. H., Fantoni, L. I., Pattison, D. I. & Davies, M. J. 1 Jan 2016 In : Free Radical Biology & Medicine. 90, p. 195-205 11 p.
- Cellular targets of the myeloperoxidase-derived oxidant hypothiocyanous acid (HOSCN) and its role in the inhibition of glycolysis in macrophages**  
Love, D., Barrett, T. J., White, M. Y., Cordwell, S. J., Davies, M. J. & Hawkins, C. L. 2016 In : Free Radical Biology & Medicine. 94, p. 88-98 DOI: 10.1016/j.freeradbiomed.2016.02.016

9. **Chasing Great Paths of Helmut "Oxidative Stress" Sies**  
Majima, H., Indo, H., Nakanishi, I., Suenaga, S., Matsumoto, K-I., Matsui, H., Minamiyama, Y., Ichikawa, H., Yen, H-C., Hawkins, C., Davies, M. J., Ozawa, T. & St. Clair, D. 2016 In : Archives of Biochemistry and Biophysics. 595, p. 54-60
10. **Competitive kinetics as a tool to determine rate constants for reduction of ferrylmyoglobin by food components**  
Jongberg, S., Lund, M. N., Pattison, D. I., Skibsted, L. H. & Davies, M. J. 2016 In : Food Chemistry. 199, p. 36-41 6 p.
11. **Detection and characterisation of radicals using electron paramagnetic resonance (EPR) spin trapping and related methods**  
Davies, M. J. 2016 In : Methods. DOI: 10.1016/j.ymeth.2016.05.013
12. **Exposure of aconitase to smoking-related oxidants results in iron loss and increased iron response protein-1 activity: potential mechanisms for iron accumulation in human arterial cells**  
Talib, J. & Davies, M. J. 2016 In : Journal of Biological Inorganic Chemistry. 21, 3, p. 305-317 13 p.
13. **Key role of cysteine residues and sulfenic acids in thermal- and H<sub>2</sub>O<sub>2</sub>-mediated modification of β-lactoglobulin**  
Krämer, A. C., Thulstrup, P. W., Lund, M. N. & Davies, M. J. 2016 In : Free Radical Biology & Medicine. 97, 8, p. 544-555 12 p.
14. **Key role of cysteine residues in thermal- and H<sub>2</sub>O<sub>2</sub>-mediated modification of beta-lactoglobulin**  
Krämer, A. C., Thulstrup, P. W., Lund, M. N. & Davies, M. J. 2016 In : Free Radical Biology & Medicine. 96, Suppl. 1, p. S16 1 p.
15. **Oxidation of free, peptide and protein tryptophan residues mediated by AAPH-derived free radicals: role of alkoxy and peroxy radicals**  
Fuentes-Lemus, E., Dorta, E., Escobar, E., Aspee, A., Pino, E., Abasq, M. L., Speisky, H., Silva, E., Lissi, E., Davies, M. J. & Lopez-Alarcon, C. 2016 In : RSC Advances. 6, 63, p. 57948-57955 8 p.
16. **Protein oxidation and peroxidation**  
Davies, M. J. 2016 In : Biochemical Journal. 473, 7, p. 805-825 21 p.
17. **Quinone-induced protein modifications: kinetic preference for reaction of 1,2-benzoquinones with thiol groups in proteins**  
Li, Y., Jongberg, S., Andersen, M. L., Davies, M. J. & Lund, M. N. 2016 In : Free Radical Biology & Medicine. 97, p. 148-157 10 p.
18. **Role of Myeloperoxidase Oxidants in the Modulation of Cellular Lysosomal Enzyme Function: A Contributing Factor to Macrophage Dysfunction in Atherosclerosis?**  
Ismael, F. O., Barrett, T. J., Sheipouri, D., Brown, B. E., Davies, M. J. & Hawkins, C. L. 2016 In : P L o S One. 11, 12, p. e0168844
19. **Temperature Activated Diffusion of Radicals through Ion Implanted Polymers**  
Wakelin, E. A., Davies, M. J., Bilek, M. M. M. & McKenzie, D. R. 2 Dec 2015 In : A C S Applied Materials and Interfaces. 7, 47, p. 26340-26345 6 p.
20. **Kinetics of reaction of peroxyxynitrite with selenium- and sulfur-containing compounds: Absolute rate constants and assessment of biological significance**  
Storkey, C., Pattison, D. I., Ignasiak, M. T., Schiesser, C. H. & Davies, M. J. Dec 2015 In : Free Radical Biology & Medicine. 89, p. 1049-1056 8 p.
21. **Peroxyxynitrous acid induces structural and functional modifications to basement membranes and its key component, laminin**  
Degendorfer, G., Chuang, C. Y., Hammer, A., Malle, E. & Davies, M. J. Dec 2015 In : Free Radical Biology & Medicine. 89, p. 721-733 13 p.
22. **Determination of protein carbonyls in plasma, cell extracts, tissue homogenates, isolated proteins: Focus on sample preparation and derivatization conditions**  
Weber, D., Davies, M. J. & Grune, T. 1 Aug 2015 In : Redox Biology. 5, p. 367-380 14 p.
23. **Manganese superoxide dismutase promotes interaction of actin, S100A4 and Talin and enhances rat gastric tumor cell invasion**  
Indo, H. P., Matsui, H., Chen, J., Zhu, H., Hawkins, C. L., Davies, M. J., Yarana, C., Clair, D. K. S. & Majima, H. J. 1 Jul 2015 In : Journal of Clinical Biochemistry and Nutrition. 57, 1, p. 13-20 8 p.
24. **Reactivity of selenium-containing compounds with myeloperoxidase-derived chlorinating oxidants: Second-order rate constants and implications for biological damage**  
Carroll, L., Pattison, D. I., Fu, S., Schiesser, C. H., Davies, M. J. & Hawkins, C. L. Jul 2015 In : Free Radical Biology & Medicine. 84, p. 279-288 10 p.
25. **Comparative reactivity of the myeloperoxidase-derived oxidants HOCl and HOSCN with low-density lipoprotein (LDL): implications for foam cell formation in atherosclerosis**  
Ismael, F. O., Proudfoot, J. M., Brown, B. E., van Reyk, D. M., Croft, K. D., Davies, M. J. & Hawkins, C. L. May 2015 In : Archives of Biochemistry and Biophysics. 573, p. 40-51 12 p.

26. **The nitroxide radical TEMPOL prevents obesity, hyperlipidaemia, elevation of inflammatory cytokines, and modulates atherosclerotic plaque composition in apoE(-/-) mice**  
Kim, C. H. J., Mitchell, J. B., Bursill, C. A., Sowers, A. L., Thetford, A., Cook, J. A., van Reyk, D. M. & Davies, M. J. May 2015 In : *Atherosclerosis*. 240, 1, p. 234-241 8 p.
27. **Exploring oxidative modifications of tyrosine: An update on mechanisms of formation, advances in analysis and biological consequences**  
Houée-Lévin, C., Bobrowski, K., Horakova, L., Karademir, B., Schöneich, C., Davies, M. J. & Spickett, C. M. Apr 2015 In : *Free Radical Research*. 49, 4, p. 347-73 27 p.
28. **Thiocyanate supplementation decreases atherosclerotic plaque in mice expressing human myeloperoxidase**  
Morgan, P. E., Laura, R. P., Maki, R. A., Reynolds, W. F. & Davies, M. J. 27 Mar 2015 In : *Free Radical Research*. 49, 6, p. 743-9 7 p.
29. **Low zinc and selenium concentrations in sepsis are associated with oxidative damage and inflammation**  
Mertens, K., Lowes, D. A., Webster, N. R., Talib, J., Hall, L., Davies, M. J., Beattie, J. H. & Galley, H. F. 2015 In : *British Journal of Anaesthesia*. 114, 6, p. 990-999 10 p.
30. **Reaction of low-molecular-mass organoselenium compounds (and their sulphur analogues) with inflammation-associated oxidants**  
Carroll, L., Davies, M. J. & Pattison, D. I. 2015 In : *Free Radical Research*. 49, 6, p. 750-767 18 p.
31. **Sulfur and selenium in oxidation protection**  
Davies, M. J. 2015 In : *La chimica e l'industria, Chimica & Materiali*. 6, p. 50-54 DOI: <http://dx.medra.org/10.17374/CI.2015.97.6.50>
32. **Tryptophan oxidation in proteins exposed to thiocyanate-derived oxidants**  
Bonifay, V., Barrett, T. J., Pattison, D. I., Davies, M. J., Hawkins, C. L. & Ashby, M. T. 15 Dec 2014 In : *Archives of Biochemistry and Biophysics*. 564, p. 1-11 11 p.
33. **High plasma thiocyanate levels are associated with enhanced myeloperoxidase-induced thiol oxidation and long-term survival in subjects following a first myocardial infarction**  
Nedoboy, P. E., Morgan, P. E., Mocatta, T. J., Richards, A. M., Winterbourn, C. C. & Davies, M. J. Oct 2014 In : *Free Radical Research*. 48, 10, p. 1256-66 11 p.
34. **Oxidation and modification of extracellular matrix and its role in disease**  
Chuang, C. Y., Degendorfer, G. & Davies, M. J. Sep 2014 In : *Free Radical Research*. 48, 9, p. 970-89 20 p.
35. **Reevaluation of the rate constants for the reaction of hypochlorous acid (HOCl) with cysteine, methionine, and peptide derivatives using a new competition kinetic approach**  
Storkey, C., Davies, M. J. & Pattison, D. I. Aug 2014 In : *Free Radical Biology & Medicine*. 73, p. 60-6 7 p.
36. **Inhibition of myeloperoxidase- and neutrophil-mediated oxidant production by tetraethyl and tetramethyl nitroxides**  
Kajer, T. B., Fairfull-Smith, K. E., Yamasaki, T., Yamada, K., Fu, S., Bottle, S. E., Hawkins, C. L. & Davies, M. J. May 2014 In : *Free Radical Biology & Medicine*. 70, p. 96-105 10 p.
37. **Mechanisms of degradation of the natural high-potency sweetener (2R,4R)-monatin in mock beverage solutions**  
Storkey, C., Pattison, D. I., Gaspard, D. S., Hagestuen, E. D. & Davies, M. J. 16 Apr 2014 In : *Journal of Agricultural and Food Chemistry*. 62, 15, p. 3476-87 12 p.
38. **Oxidation modifies the structure and function of the extracellular matrix generated by human coronary artery endothelial cells**  
Chuang, C. Y., Degendorfer, G., Hammer, A., Whitelock, J. M., Malle, E. & Davies, M. J. 15 Apr 2014 In : *Biochemical Journal*. 459, 2, p. 313-22 10 p.
39. **The role of vascular-derived perlecan in modulating cell adhesion, proliferation and growth factor signaling**  
Lord, M. S., Chuang, C. Y., Melrose, J., Davies, M. J., Iozzo, R. V. & Whitelock, J. M. Apr 2014 In : *Matrix Biology*. 35, p. 112-22 11 p.
40. **A critical role for thioredoxin-interacting protein in diabetes-related impairment of angiogenesis**  
Dunn, L. L., Simpson, P. J. L., Prosser, H. C., Lecce, L., Yuen, G. S. C., Buckle, A., Sieveking, D. P., Vanags, L. Z., Lim, P. R., Chow, R. W. Y., Lam, Y. T., Clayton, Z., Bao, S., Davies, M. J., Stadler, N., Celermajer, D. S., Stocker, R., Bursill, C. A., Cooke, J. P. & Ng, M. K. C. Feb 2014 In : *Diabetes*. 63, 2, p. 675-87 13 p.
41. **Detection and characterisation of radicals in biological materials using EPR methodology**  
Hawkins, C. L. & Davies, M. J. Feb 2014 In : *B B A - Reviews on Cancer*. 1840, 2, p. 708-21 14 p.
42. **Detection, quantification, and total synthesis of novel 3-hydroxykynurenine glucoside-derived metabolites present in human lenses**  
Gad, N. A., Mizdrak, J., Pattison, D. I., Davies, M. J., Truscott, R. J. W. & Jamie, J. F. Feb 2014 In : *Investigative ophthalmology & visual science*. 55, 2, p. 849-55 7 p.
43. **Supplementation with carnosine decreases plasma triglycerides and modulates atherosclerotic plaque composition in diabetic apo E(-/-) mice**  
Brown, B. E., Kim, C. H. J., Torpy, F. R., Bursill, C. A., McRobb, L. S., Heather, A. K., Davies, M. J. & van Reyk, D. M. Feb 2014 In : *Atherosclerosis*. 232, 2, p. 403-9 7 p.

44. **The smoking-associated oxidant hypothiocyanous acid induces endothelial nitric oxide synthase dysfunction**  
Talib, J., Kwan, J., Suryo Rahmanto, A., Witting, P. K. & Davies, M. J. 1 Jan 2014 In : *Biochemical Journal*. 457, 1, p. 89-97 9 p.
45. **Competitive reduction of perferrylmyoglobin radicals by protein thiols and plant phenols**  
Jongberg, S., Lametsch, M. L., Skibsted, L. H. & Davies, M. J. 2014 In : *Journal of Agricultural and Food Chemistry*. 62, 46, p. 11279-11288 10 p.
46. **Glutathionylation mediates angiotensin II-induced eNOS uncoupling, amplifying NADPH oxidase-dependent endothelial dysfunction**  
Galougahi, K. K., Liu, C-C., Gentile, C., Kok, C., Nunez, A., Garcia, A., Fry, N. A. S., Davies, M. J., Hawkins, C. L., Rasmussen, H. H. & Figtree, G. A. 2014 In : *American Heart Association. Journal. Cardiovascular and Cerebrovascular Disease*. 3, 2, p. e000731
47. **Perturbation of human coronary artery endothelial cell redox state and NADPH generation by methylglyoxal**  
Morgan, P. E., Sheahan, P. J. & Davies, M. J. 2014 In : *PloS one*. 9, 1, 11 p., e86564
48. **Comparative reactivity of the myeloperoxidase-derived oxidants hypochlorous acid and hypothiocyanous acid with human coronary artery endothelial cells**  
Lloyd, M. M., Grima, M. A., Rayner, B. S., Hadfield, K. A., Davies, M. J. & Hawkins, C. L. Dec 2013 In : *Free Radical Biology & Medicine*. 65, p. 1352-62 11 p.
49. **Superoxide radicals have a protective role during H<sub>2</sub>O<sub>2</sub> stress**  
Thorpe, G. W., Reodica, M., Davies, M. J., Heeren, G., Jarolim, S., Pillay, B., Breitenbach, M., Higgins, V. J. & Dawes, I. W. Sep 2013 In : *Molecular Biology of the Cell*. 24, 18, p. 2876-84 9 p.
50. **Biomarkers of oxidative stress study V: ozone exposure of rats and its effect on lipids, proteins, and DNA in plasma and urine**  
Kadiiska, M. B., Basu, S., Brot, N., Cooper, C., Saari Csallany, A., Davies, M. J., George, M. M., Murray, D. M., Jackson Roberts, L., Shigenaga, M. K., Sohal, R. S., Stocker, R., Van Thiel, D. H., Wiswedel, I., Hatch, G. E. & Mason, R. P. Aug 2013 In : *Free Radical Biology & Medicine*. 61, p. 408-15 8 p.
51. **Methylglyoxal-induced modification of arginine residues decreases the activity of NADPH-generating enzymes**  
Morgan, P. E., Sheahan, P. J., Pattison, D. I. & Davies, M. J. Aug 2013 In : *Free Radical Biology & Medicine*. 61, p. 229-42 14 p.
52. **The modern pharmacology of paracetamol: therapeutic actions, mechanism of action, metabolism, toxicity and recent pharmacological findings**  
Graham, G. G., Davies, M. J., Day, R. O., Mohamudally, A. & Scott, K. F. Jun 2013 In : *Inflammopharmacology*. 21, 3, p. 201-32 32 p.
53. **Chemical modification of lysozyme, glucose 6-phosphate dehydrogenase, and bovine eye lens proteins induced by peroxyl radicals: role of oxidizable amino acid residues**  
Arenas, A., López-Alarcón, C., Kogan, M., Lissi, E., Davies, M. J. & Silva, E. 18 Jan 2013 In : *Chemical Research in Toxicology*. 26, 1, p. 67-77 11 p.
54. **Myeloperoxidase-derived oxidants modify apolipoprotein A-I and generate dysfunctional high-density lipoproteins: comparison of hypothiocyanous acid (HOSCN) with hypochlorous acid (HOCl)**  
Hadfield, K. A., Pattison, D. I., Brown, B. E., Hou, L., Rye, K-A., Davies, M. J. & Hawkins, C. L. 15 Jan 2013 In : *Biochemical Journal*. 449, 2, p. 531-42 12 p.
55. **Targeting the AGE-RAGE axis improves renal function in the context of a healthy diet low in advanced glycation end-product content**  
Thallas-Bonke, V., Coughlan, M. T., Tan, A. L., Harcourt, B. E., Morgan, P. E., Davies, M. J., Bach, L. A., Cooper, M. E. & Forbes, J. M. Jan 2013 In : *Nephrology*. 18, 1, p. 47-56 10 p.
56. **Apolipoprotein A-I glycation by glucose and reactive aldehydes alters phospholipid affinity but not cholesterol export from lipid-laden macrophages**  
Brown, B. E., Nobecourt, E., Zeng, J., Jenkins, A. J., Rye, K-A. & Davies, M. J. 2013 In : *PloS one*. 8, 5, p. e65430
57. **Myeloperoxidase-derived oxidants rapidly oxidize and disrupt zinc-cysteine/histidine clusters in proteins**  
Cook, N. L., Pattison, D. I. & Davies, M. J. 1 Dec 2012 In : *Free Radical Biology & Medicine*. 53, 11, p. 2072-80 9 p.
58. **Computational design of effective, bioinspired HOCl antioxidants: the role of intramolecular Cl<sup>-</sup> and H<sup>+</sup> shifts**  
Karton, A., O'Reilly, R. J., Pattison, D. I., Davies, M. J. & Radom, L. 21 Nov 2012 In : *Journal of the American Chemical Society*. 134, 46, p. 19240-5 6 p.
59. **Preventing protein oxidation with sugars: scavenging of hypohalous acids by 5-selenopyranose and 4-selenofuranose derivatives**  
Storkey, C., Pattison, D. I., White, J. M., Schiesser, C. H. & Davies, M. J. 19 Nov 2012 In : *Chemical Research in Toxicology*. 25, 11, p. 2589-99 11 p.
60. **The nitroxide TEMPO is an efficient scavenger of protein radicals: cellular and kinetic studies**  
Pattison, D. I., Lam, M., Shinde, S. S., Anderson, R. F. & Davies, M. J. 1 Nov 2012 In : *Free Radical Biology & Medicine*. 53, 9, p. 1664-74 11 p.
61. **Selenium-containing amino acids as direct and indirect antioxidants**  
Rahmanto, A. S. & Davies, M. J. Nov 2012 In : *I U B M B Life*. 64, 11, p. 863-71 9 p.



62. **Photo-oxidation-induced inactivation of the selenium-containing protective enzymes thioredoxin reductase and glutathione peroxidase**  
Suryo Rahmanto, A., Pattison, D. I. & Davies, M. J. 15 Sep 2012 In : Free Radical Biology & Medicine. 53, 6, p. 1308-16 9 p.
63. **Reactions and reactivity of myeloperoxidase-derived oxidants: differential biological effects of hypochlorous and hypothiocyanous acids**  
Pattison, D. I., Davies, M. J. & Hawkins, C. L. Aug 2012 In : Free Radical Research. 46, 8, p. 975-95 21 p.
64. **High plasma thiocyanate levels modulate protein damage induced by myeloperoxidase and perturb measurement of 3-chlorotyrosine**  
Talib, J., Pattison, D. I., Harmer, J. A., Celermajer, D. S. & Davies, M. J. 1 Jul 2012 In : Free Radical Biology & Medicine. 53, 1, p. 20-9 10 p.
65. **Inhibition of lysosomal function in macrophages incubated with elevated glucose concentrations: a potential contributory factor in diabetes-associated atherosclerosis**  
Moheimani, F., Kim, C. H. J., Rahmanto, A. S., van Reyk, D. M. & Davies, M. J. Jul 2012 In : Atherosclerosis. 223, 1, p. 144-51 8 p.
66. **Is protein methylation in the human lens a result of non-enzymatic methylation by S-adenosylmethionine?**  
Truscott, R. J. W., Mizdrak, J., Friedrich, M. G., Hooi, M. Y., Lyons, B., Jamie, J. F., Davies, M. J., Wilmarth, P. A. & David, L. L. Jun 2012 In : Experimental Eye Research. 99, p. 48-54 7 p.
67. **Reduced metal ion concentrations in atherosclerotic plaques from subjects with type 2 diabetes mellitus**  
Stadler, N., Heeneman, S., Vöö, S., Stanley, N., Giles, G. I., Gang, B. P., Croft, K. D., Mori, T. A., Vacata, V., Daemen, M. J. A. P., Waltenberger, J. & Davies, M. J. Jun 2012 In : Atherosclerosis. 222, 2, p. 512-8 7 p.
68. **Inactivation of thiol-dependent enzymes by hypothiocyanous acid: role of sulfenyl thiocyanate and sulfenic acid intermediates**  
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Hawkins, C. L. & Davies, M. J. 2000 In : Redox Report (Online). 5, 1, p. 57-9 3 p.
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Wright, A., Hawkins, C. L. & Davies, M. J. 2000 In : Redox Report (Online). 5, 2-3, p. 159-61 3 p.
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## Activities

Award recipient:

**Lifetime Achievement Award, Society for Free Radical Research-India**  
2014

Award recipient:

**Informa Lecturer, SFRR-Asia**  
2013

Chair:

**President, Society for Free Radical Research International**  
2013 - 2014

Member of Editorial Board:

**Redox Biology**  
2013

Member of Editorial Board:

**Biomedical Spectroscopy and Imaging**  
2012

Board member:

**Director and Board Member, Heart Research Institute**  
2012 - 2014

Award recipient:

**Distinguished Service Award, Society for Free Radical Research-Australia**  
2012

Member of Editorial Board:

**Toxicology Research**  
2012

Chair:

**President-Elect, Society for Free Radical Research International**  
2011 - 2012

Chair:

**Chairperson, Biomedical Science and Biotechnology Committee, Australian Institute of Nuclear Science and Engineering**  
2010 - 2014

Editor:

**Associate Editor, Photochemistry and Photobiology**  
1 Jan 2009

Editor:

**Biochemical Journal**  
1 Jan 2009

Editor:

**Editor in Chief, Free Radical Research**  
1 Jan 2009

Award recipient:

**Australian Research Council Professorial Fellowship**  
2009 - 2013

Award recipient:

**Distinguished Service Award, Asia-Pacific EPR Society**  
2008

Board member:

**Vice-President, International EPR Society**  
2008 - 2011

Award recipient:

**John Wilberforce Lothian Award for excellence in research of the National Heart Foundation**  
2007

Award recipient:

**Piette Memorial Lecture, 49th Rocky Mountain Analytical Conference**  
2007

Secretary:

**Secretary-General, Society for Free Radical Research International**  
2007 - 2010

Award recipient:

**Archibald Olle Prize of the Royal Australian Chemical Institute**  
2006

Member of Editorial Board:

**Journal of Clinical Biochemistry and Nutrition**  
2006

Board member:

**Council member, American Society for Photobiology**  
2005 - 2008

Member:

**International Committee member, Oxygen Club of California**  
2005

Board member:

**Management Committee, Australian Research Council Centre of Excellence in Free Radical Chemistry and Biotechnology**  
2005 - 2013

Award recipient:

**Aniko Whealy Research Award of the National Heart Foundation**  
2004

Award recipient:

**Fellow, Royal Australian Chemical Institute (FRACI)**  
2004

Member of Editorial Board:

**Chemical Research in Toxicology**  
2003 - 2005

Secretary:

**Secretary and Public Officer, Mutagenesis and Experimental Pathology Society Australasia**  
2003 - 2005

Award recipient:

**Silver Medal of the International EPR Society for Biology/Medicine**  
2003

Award recipient:

**Chartered Chemist (C. Chem.)**  
2002

Board member:

**Council member, Mutagenesis and Experimental Pathology Society Australasia**  
2002 - 2007

Board member:

**Deputy Director, The Heart Research Institute**  
2001 - 2012

Chair:

**President, Society for Free Radical Research (Australasia)**  
2001 - 2003

Member of Editorial Board:

**Spectroscopy**  
2001 - 2012

Award recipient:

**Australian Research Council Senior Fellowship**  
2000 - 2005

Member of Editorial Board:

**Free Radical Biology and Medicine**  
2000

Member of Editorial Board:

**Free Radical Research**  
2000

Chair:

**President-Elect, Society for Free Radical Research (Australasia)**  
1999 - 2001

Member of Editorial Board:

**Biochemical Journal**  
1 Jan 1998

Award recipient:

**Australian Research Council Queen Elizabeth 2 Fellowship**  
1996 - 2000

Member of Editorial Board:

**Redox Report**  
1994

Editor:

**Royal Society of Chemistry, ESR/EPR Specialist Periodical Reports**  
1993 - 2008

Member:

**Royal Society of Chemistry, ESR Group Committee**  
1992 - 1995

Board member:

**Society for Free Radical Research, European Committee**  
1992 - 1994