# Theme issue: Chemical biology approaches to assessing and modulating mitochondria

**INTRODUCTION**

Chemical biology of mitochondria  
MP Murphy  

**ARTICLES**

Using chemical biology to assess and modulate mitochondria: progress and challenges  
A Logan and MP Murphy  

ClickIn: a flexible protocol for quantifying mitochondrial uptake of nucleobase derivatives  
K Hoogewijs, AM James, RAJ Smith, F Abendroth, MJ Gait, MP Murphy and RN Lightowlers  

Mitochondrially targeted fluorescent redox sensors  
K Yang, JL Kolanowski and EJ New  

Mitochondria-targeted metformins: anti-tumour and redox signalling mechanisms  
B Kalyanaraman, G Cheng, M Hardy, O Ouari, A Sikora, J Zielonka and M Dwinell  

Monitoring yeast mitochondria with peroxiredoxin-based redox probes: the influence of oxygen and glucose availability  
D Pastor-Flores, K Becker and TP Dick  

Modulation of the conformational state of mitochondrial complex I as a target for therapeutic intervention  
A Galkin and S Moncada  

Mitochondrial metabolites: undercover signalling molecules  
C Frezza  

Nitrosopersulfide (SSNO\(^{−}\)) decomposes in the presence of sulfide, cyanide or glutathione to give HSNO/SNO\(^{−}\): consequences for the assumed role in cell signalling  
R Wedmann, I Ivanovic-Burmazovic and MR Filipovic  

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