## Contents

## Essays in Biochemistry

## **VOLUME 61 • ISSUE 3**

BIOLOGICAL MECHANISMS OF AGEING Review Articles	005 045
Genome instability: a conserved mechanism of ageing?  Jan Vijg, Xiao Dong, Brandon Milholland and Lei Zhang	305–315
How and why do toxic conformers of aberrant proteins accumulate during ageing? Rebecca Josefson, Rebecca Andersson and Thomas Nyström	317–324
Origins of mtDNA mutations in ageing Karolina Szczepanowska and Aleksandra Trifunovic	325–337
The role of attenuated redox and heat shock protein responses in the age-related decline in skeletal muscle mass and function  Anne McArdle and Malcolm J. Jackson	339–348
<b>Differential control of ageing and lifespan by isoforms and splice variants across the mTOR network</b> Patricia Razquin Navas and Kathrin Thedieck	349–368
Systems modelling ageing: from single senescent cells to simple multi-cellular models Alvaro Martinez Guimera, Ciaran Welsh, Piero Dalle Pezze, Nicola Fullard, Glyn Nelson, Mathilde F. Roger, Stefan A. Przyborski and Daryl P. Shanley	369–377
Proteomics and metabolomics in ageing research: from biomarkers to systems biology Jessica M. Hoffman, Yang Lyu, Scott D. Pletcher and Daniel E.L. Promislow	379–388
Approaches for extending human healthspan: from antioxidants to healthspan pharmacology  Jan Gruber and Barry Halliwell	389–399