



ISSN 0304-4165
Volume 1862, Issue 11, November 2018

Biochimica et Biophysica Acta

General Subjects

Special Issue:
Selenium research in
biochemistry and
biophysics - 200 year
anniversary issue

Guest Editors
Elias Arnér
Regina Brigelius-Flohé

Se2017
200 Years of Selenium Research
1817 - 2017

0

8

6

Biochimica et Biophysica Acta

General Subjects

Abstracted/indexed in: BIOSIS - Chemical Abstracts - Current Contents/Life Sciences - EMBASE - EMBiology - Index Chemicus - MEDLINE®
- Science Citation Index - Sociedad Iberoamericana de Informacion Cientifica (SIIC) Data Bases. Also covered in the abstract and citation database Scopus®.
Full text available on ScienceDirect®

Special Issue: Selenium research in biochemistry and biophysics - 200 year anniversary issue

Guest Editors: Elias Arnér and Regina Brigelius-Flohé

Selenium research in biochemistry and biophysics - 200 year anniversary issue E.S.J. Arnér and R. Brigelius-Flohé	2331	Method	
		X-ray spectroscopy and imaging of selenium in living systems N.V. Dolgova, S. Nehzati, S. Choudhury, T.C. MacDonald, N.R. Regnier, A.M. Crawford, O. Ponomarenko, G.N. George and I.J. Pickering	2383
Selenium metabolism			
Plants			
Selenium metabolism in plants P.J. White	2333	Mammals	
Mechanisms of selenium hyperaccumulation in plants: A survey of molecular, biochemical and ecological cues L.W. Lima, E.A.H. Pilon-Smits and M. Schiavon	2343	Investigation into the intracellular fates, speciation and mode of action of selenium-containing neuroprotective agents using XAS and XFM J.L. Wedding, B. Lai, S. Vogt and H.H. Harris	2393
Selenolanthionine is the major water-soluble selenium compound in the selenium tolerant plant <i>Cardamine violifolia</i> E.B. Both, S. Shao, J. Xiang, Z. Jókai, H. Yin, Y. Liu, A. Magyar and M. Dernovics	2354	Mercury's neurotoxicity is characterized by its disruption of selenium biochemistry N.V.C. Ralston and L.J. Raymond	2405
Comparison of ATP sulfurylase 2 from selenium hyperaccumulator <i>Stanleya pinnata</i> and non-accumulator <i>Stanleya elata</i> reveals differential intracellular localization and enzyme activity levels Y. Jiang, M. Schiavon, L.W. Lima, Tripti, R.R. Jones, A.F. El Mehdawi, S. Royer, Z. Zeng, Y. Hu, E.A.H. Pilon-Smits and M. Pilon	2363	Selenium supplementation prevents metabolic and transcriptomic responses to cadmium in mouse lung X. Hu, J.D. Chandler, J. Fernandes, M.L. Orr, L. Hao, K. Uppal, D.C. Neujahr, D.P. Jones and Y.-M. Go	2417
Plant selenium hyperaccumulation- Ecological effects and potential implications for selenium cycling and community structure R.J.B. Reynolds and E.A.H. Pilon-Smits	2372	Selenoproteins	
		Evolution	
		The genomics of selenium: Its past, present and future T. Davy and S. Castellano	2427

(Contents continued on inside back cover)

Front cover image: The cover image is part of the logo of the largest ever international selenium research conference, which was held in August 2017 in Stockholm, Sweden, at the occasion of the 200 Year Anniversary of the discovery of the basic element Selenium (see www.Se2017.se). This special issue of BBA General Subjects publishes peer-reviewed contributions from prominent delegates of the Se2017 conference, covering major trends and recent advances in research on the biochemistry and biophysics of Selenium.



CONTENTS

(continued from back cover)

Translation

- | | | | |
|---|------|---|------|
| Delivery of selenium to selenophosphate synthetase for selenoprotein biosynthesis
<i>R. Tobe and H. Mihara</i> | 2433 | Selenium-regulated hierarchy of human selenoproteome in cancerous and immortalized cells lines
<i>Z. Touat-Harrici, A.-L. Bulteau, J. Bianga, H. Jean-Jacques, J. Szpunar, R. Lobinski and L. Chavatte</i> | 2493 |
| Selenium-dependent gene expression in <i>Methanococcus maripaludis</i> : Involvement of the transcriptional regulator HrsM
<i>V. Quitzke, J. Fersch, D. Seyhan and M. Rother</i> | 2441 | Molecular mechanism of selenoprotein P synthesis
<i>S. Shetty and P.R. Copeland</i> | 2506 |
| Selenoprotein synthesis and regulation in Archaea
<i>M. Rother and V. Quitzke</i> | 2451 | Function | |
| On elongation factor eEFSec, its role and mechanism during selenium incorporation into nascent selenoproteins
<i>M. Simonović and A.K. Puppala</i> | 2463 | Efficient selenocysteine-dependent reduction of toxoflavin by mammalian thioredoxin reductase
<i>R. Gencheva, Q. Cheng and E.S.J. Arnér</i> | 2511 |
| Regulation and function of avian selenogenome
<i>S. Li, F. Gao, J. Huang, Y. Wu, S. Wu and X.G. Lei</i> | 2473 | Selenium unmasks protective iron armor: A possible defense against cutaneous inflammation and cancer
<i>J.L. Arbiser, M.Y. Bonner, N. Ward, J. Elsey and S. Rao</i> | 2518 |
| Translation regulation of mammalian selenoproteins
<i>C. Vindry, T. Ohlmann and L. Chavatte</i> | 2480 | | |

