

# Metallomics

Integrated biometal science

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### Cover

See Parsons *et al.*, pp. 621–627. Trace amounts of aluminium were detected in digested placental tissue using a transversely heated graphite atomizer AAS method with longitudinal Zeeman correction. The authors acknowledge the contributions of Stuart Lehrman and Michael Wren in designing the images produced for this paper. Image reproduced by permission of Erin C. Davis from *Metallomics*, 2010, 2, 621.

## JOURNAL SCOPE

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### Metallomics scope



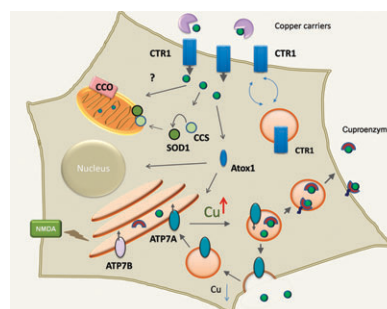
## CRITICAL REVIEWS

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### Copper handling machinery of the brain

Svetlana Lutsenko,\* Ashima Bhattacharjee and Ann L. Hubbard

Our knowledge of copper homeostasis on the brain is rudimentary, particularly considering the complexity of the CNS architecture and the abundance of regulatory mechanisms.



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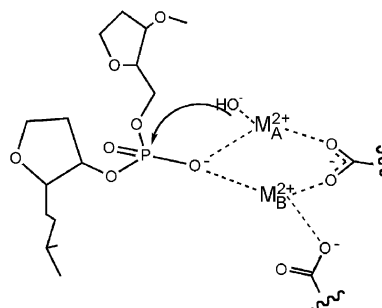
## CRITICAL REVIEWS

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**One is enough: insights into the two-metal ion nuclease mechanism from global analysis and computational studies**

Cynthia M. Dupureur

This article reviews the applications of different experimental strategies that collectively support a mechanism in which only one metal ion is necessary for nucleic acid hydrolysis.



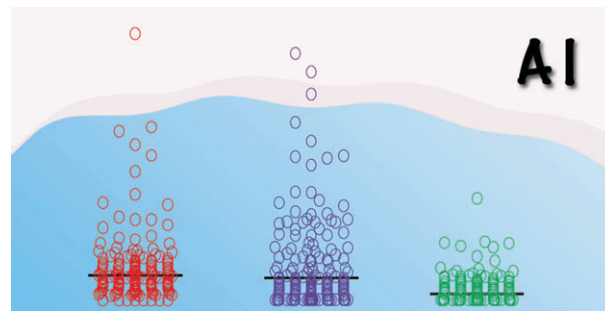
## PAPERS

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**A study of the distribution of aluminium in human placental tissues based on alkaline solubilization with determination by electrothermal atomic absorption spectrometry**

Pamela C. Kruger, Lawrence M. Schell, Alice D. Stark and Patrick J. Parsons\*

Aluminium was measured in placental tissues obtained from more than 150 women. Concentrations ranged from less than 0.25 to  $\sim 10 \mu\text{g g}^{-1}$  based on dry weight.

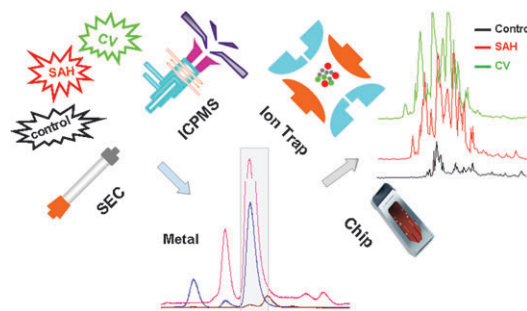


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**Metallomics study in CSF for putative biomarkers to predict cerebral vasospasm**

Yaofang Zhang, Joseph F. Clark, Gail Pyne-Geithman and Joseph Caruso\*

Three types of CSF samples were investigated *via* two-dimensional separations in combination with elemental and molecular mass spectrometry detection for the identification of possible biomarkers to inform the possibility of cerebral vasospasm.

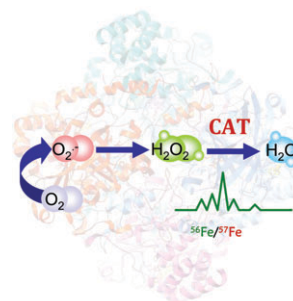


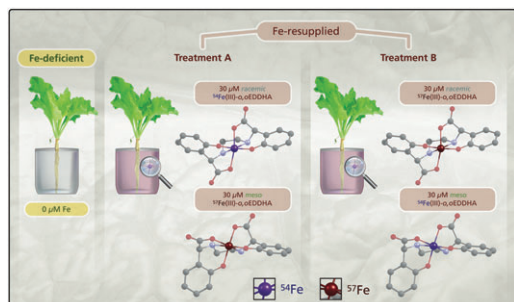
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**Sample preparation strategies for quantitative analysis of catalase in red blood cells by elemental mass spectrometry**

A. Mudarra Rubio, M. Montes-Bayón, E. Blanco-González\* and A. Sanz-Medel\*

The described methodology of sample preparation opens the way to robust quantitative studies of CAT levels and its small changes by post-column HPLC-IDA-ICP-MS in clinical diagnosis and CAT-related oxidative stress research.





### Using a dual-stable isotope tracer method to study the uptake, xylem transport and distribution of Fe and its chelating agent from stereoisomers of an Fe(III)-chelate used as fertilizer in Fe-deficient Strategy I plants

Irene Orera, José A. Rodríguez-Castrillón, Mariella Moldovan, José I. García-Alonso, Anunciación Abadía, Javier Abadía and Ana Álvarez-Fernández\*

The usefulness of dual-stable Fe isotope tracer experiments in plant Fe nutrition has been proven.

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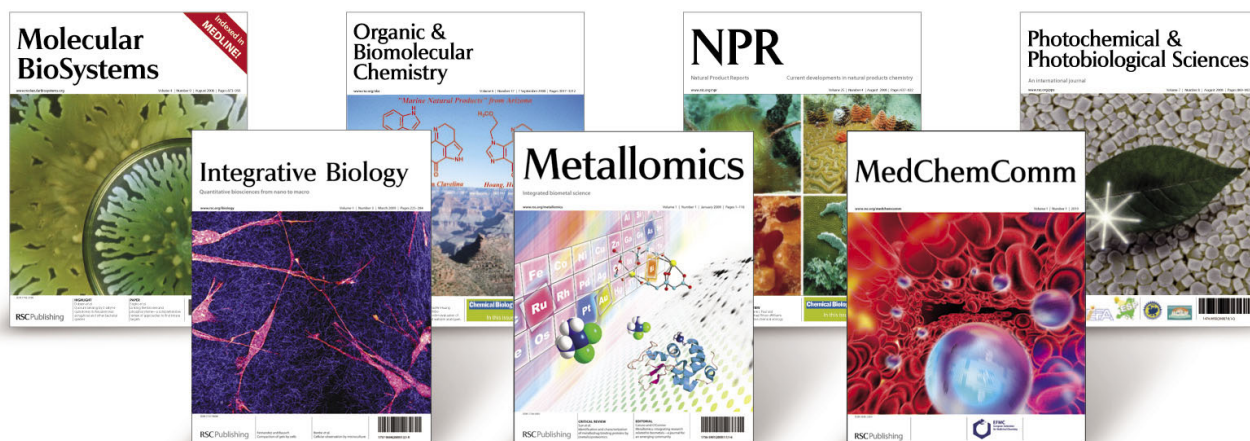
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