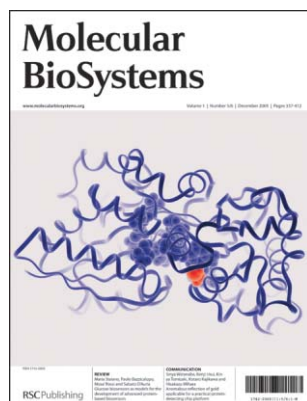


IN THIS ISSUE

ISSN 1742-206X CODEN MBOIBW 1(5/6) 337-412 (2005)



Cover

See Maria Staiano, Paolo Bazzicalupo, Mose' Rossi and Sabato D'Auria, page 354. Thermostable glucose-binding protein as probe for an implantable and non-consuming glucose fluorescence biosensor with a long-term stability. Image reproduced by permission of Sabato D'Auria *et al.*, from *Mol. BioSyst.*, 2005, 1, 354.



Inside cover

See Hideo Akashi, Makoto Miyagishi, Takanori Yokota, Tsunamasa Watanabe, Taro Hino, Kazutaka Nishina, Michinori Kohara and Kazunari Taira, page 382. A long double-stranded RNA of 44 bp. Image kindly provided by Dr Yoshiyuki Tanaka, Tohoku University, Japan, from *Mol. BioSyst.*, 2005, 1, 382.

EDITORIAL

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Forthcoming launch of new supplement *Chemical Biology*

We are delighted to announce that 2006 will see the launch of a new supplement from the RSC—*Chemical Biology*.



PROFILE

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Meet the new members of the Editorial Board

Molecular BioSystems profiles the new Editorial Board members Tadhg Begley and Stephen Michnick.

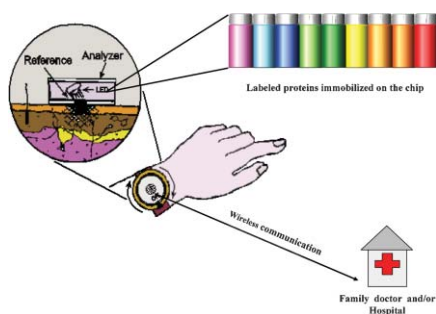


HOT OFF THE PRESS

Hot off the Press

Topics highlighted in this month's *Hot off the Press* include the development of transcriptional networks, the use of systems biology in classifying cancers, and a new method for protein labelling in bacterial cells.

REVIEW



Glucose biosensors as models for the development of advanced protein-based biosensors

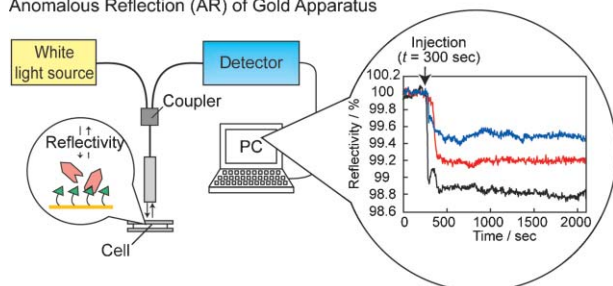
Maria Staiano, Paolo Bazzicalupo, Mose' Rossi and Sabato D'Auria*

Coenzyme-depleted enzymes and proteins belonging to the "binding-protein" family can be used as specific probes for the realization of non-consuming analyte fluorescence biosensors for analyses of high social interest.

COMMUNICATION



Anomalous Reflection (AR) of Gold Apparatus



Anomalous reflection of gold applicable for a practical protein-detecting chip platform

Sinya Watanabe, Kenji Usui, Kin-ya Tomizaki, Kotaro Kajikawa and Hisakazu Mihara*

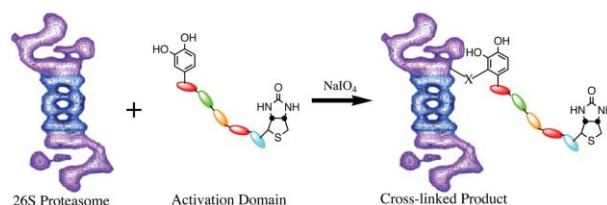
A simple, convenient and label-free fiber optic detection system based on the characteristic property, 'anomalous reflection (AR)' of gold was developed and preliminary experiments showed that the AR signals were sensitive enough to monitor protein-peptide interactions on solid surfaces.

366

Identification of Gal4 activation domain-binding proteins in the 26S proteasome by periodate-triggered cross-linking

Chase T. Archer, Lyle Burdine and Thomas Kodadek*

Transient protein–protein interactions mediate most biological functions. This work describes a highly specific, periodate-triggered chemical cross-linking technique that elucidates the Gal4 activation domain binding site within the 26S proteasome.

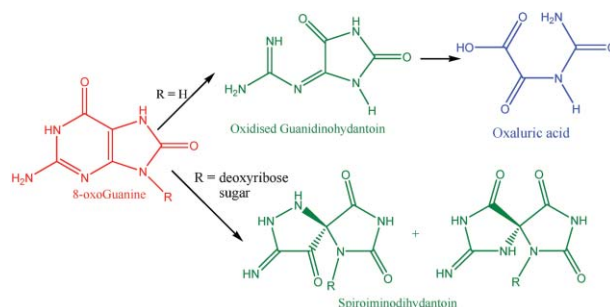


373

Oxidised guanidinohydantoin (Gh^{ox}) and spiroiminodihydantoin (Sp) are major products of iron- and copper-mediated 8-oxo-7,8-dihydroguanine and 8-oxo-7,8-dihydro-2'-deoxyguanosine oxidation

Blánaid White, Maricar C. Tarun, Nicholas Gathergood, James F. Rusling and Malcolm R. Smyth*

Oxidised guanidinohydantoin was detected as the major product of oxidation of 8-oxoGua, which subsequently hydrolysed to oxaluric acid. By contrast, spiroiminodihydantoin was detected as the product of 8-oxodGuo oxidation.

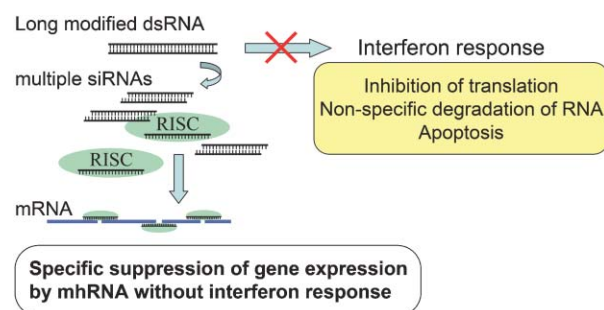


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Escape from the interferon response associated with RNA interference using vectors that encode long modified hairpin-RNA

Hideo Akashi, Makoto Miyagishi,* Takanori Yokota, Tsunamasa Watanabe, Taro Hino, Kazutaka Nishina, Michinori Kohara and Kazunari Taira*

A novel and simple strategy for avoiding activation of the IFN response by dsRNA is described. RNA interference caused by modified hairpin-RNAs, can effectively suppress replication in the hepatitis C virus.

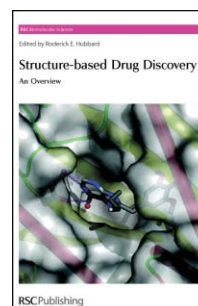


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3D structure and the drug-discovery process

Roderick E. Hubbard

This is Chapter 1 of the forthcoming book *Structure-Based Drug Discovery* which forms part of the RSC Biomolecular Sciences series. More information about this book and the whole series is available from www.rsc.org/biomolecularsciences, email: or the RSC Sales team (sales@rsc.org). *Structure-Based Drug Discovery* is due to be published in early 2006.



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