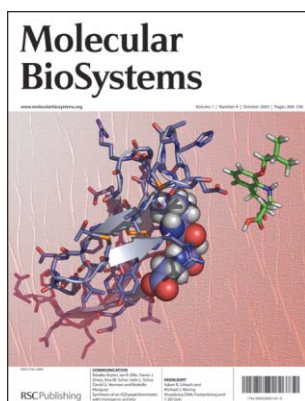


## IN THIS ISSUE

ISSN 1742-206X CODEN MBOIBW 1(4) 269–336 (2005)



### Cover

See Natalia Shpiro, Ian R. Ellis, Trevor J. Dines, Ana M. Schor, Seth L. Schor, David G. Norman and Rodolfo Marquez, page 318. NMR structural information as the basis for the rational design of small molecule fibronectin peptidomimetics with angiogenic and motogenic control activity. Image reproduced by permission of Rodolfo Marquez *et al.*, from *Mol. BioSyst.*, 2005, 1, 318.



### Inside cover

See Antoni Benito, Marc Ribó and Maria Vilanova, page 294. Natural pancreatic-type ribonucleases share a common fold, evade the ribonuclease inhibitor, and their cytotoxic properties are a sum of different factors. Image reproduced by permission of Maria Vilanova *et al.*, from *Mol. BioSyst.*, 2005, 1, 294.

## PROFILE

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### Meet the Editorial Advisory Board

*Molecular BioSystems* profiles some of the members of the Editorial Advisory Board.



## HOT OFF THE PRESS

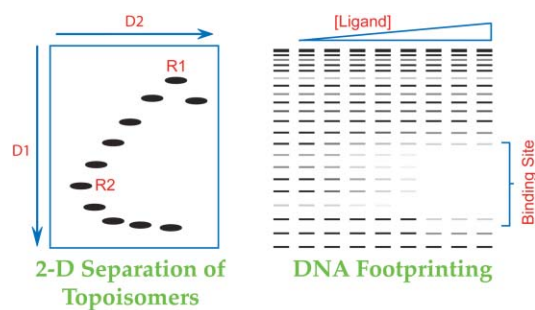
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### Hot off the Press

Topics highlighted in this month's *Hot off the Press* include the intracellular localization of antisense nucleotides, an aptamer-based biosensor, functional proteomics of glycosidases, and a new technique for finding transcription factor binding sites.

**HOT**  
**OFF THE PRESS**

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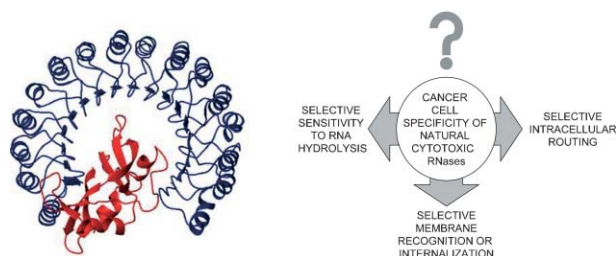


### Visualising DNA: Footprinting and 1-2D Gels

Adam R. Urbach and Michael J. Waring\*

Sophisticated and elegant methods for visualising DNA, exemplified by footprinting and two-dimensional electrophoretic techniques, have transformed the study of DNA and DNA-ligand interactions into a highly precise science.

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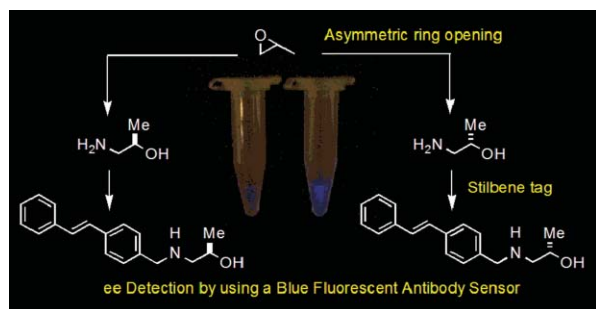


### On the track of antitumour ribonucleases

Antoni Benito, Marc Ribó and Maria Vilanova\*

What is known about natural cytotoxic ribonucleases has helped to engineer non-cytotoxic ribonucleases and convert them into cytotoxic ones. Conversely, the engineered ribonucleases have provided new clues to the molecular basis of the cytotoxicity of the natural cytotoxic ribonucleases.

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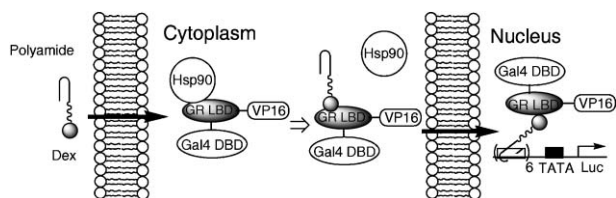


### Chiral sensing using a blue fluorescent antibody

Hana Matsushita, Noboru Yamamoto, Michael M. Meijler, Peter Wirsching, Richard A. Lerner, Masayuki Matsushita\* and Kim D. Janda\*

A blue fluorescent monoclonal antibody based biosensor has been developed for the discrimination of chirality in small molecules, and a set of Jacobsen's chiral catalysts has been evaluated.

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### Simple reporter gene-based assays for hairpin poly(amide) conjugate permeability and DNA-binding activity in living cells

Bo Liu, Peng Yu, Prasanna G. Alluri and Thomas Kodadek

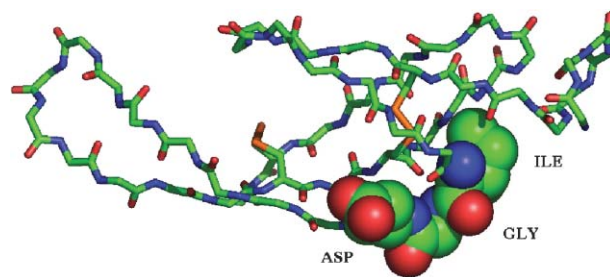
Two related reporter gene-based assays provide a more convenient and quantitative measure of poly(amide) permeability and DNA binding activity in living cells.

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### Synthesis of an IGD peptidomimetic with motogenic activity

Natalia Shpiro, Ian R. Ellis, Trevor J. Dines, Ana M. Schor, Seth L. Schor, David G. Norman and Rodolfo Marquez\*

A novel IGD peptidomimetic mimicking a fibronectin  $\gamma$ -turn has been designed and synthesised. The new mimetic has been shown to have significant biological activity.

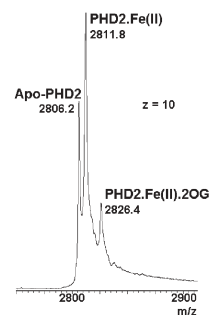


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### Hypoxia-inducible factor prolyl hydroxylase 2 has a high affinity for ferrous iron and 2-oxoglutarate

Luke A. McNeill, Emily Flashman, Matthew R. G. Buck, Kirsty S. Hewitson, Ian J. Clifton, Gunnar Jeschke, Timothy D. W. Claridge, Dominic Ehrismann, Neil J. Oldham and Christopher J. Schofield\*

In animals, regulation of the hypoxic response is mediated by oxygenases that catalyse the post-translational hydroxylation of hypoxia-inducible (transcription) factor, one of which, a prolyl hydroxylase, has a high affinity for its iron cofactor and 2-oxoglutarate cosubstrate.



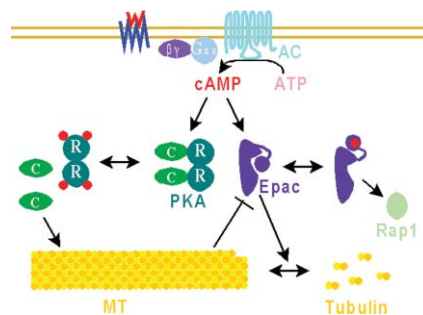
## PAPER

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### Interplay between exchange protein directly activated by cAMP (Epac) and microtubule cytoskeleton

Fang C. Mei and Xiaodong Cheng\*

Epac plays an important role in the interplay between the microtubule cytoskeleton network and intracellular cAMP-signalling. While Epac binding promotes microtubule formation, disruption of microtubule activates Epac downstream effector, Rap1.



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