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Cover

See Ben Corry, page 527. Understanding ion channel selectivity and gating and their role in cellular signalling. Image reproduced with permission of Ben Corry, from *Mol. BioSyst.*, 2006, 2, 527.

CHEMICAL BIOLOGY

B41

Chemical Biology

November 2006/Volume 1/Issue 11

www.rsc.org/chembiology

Drawing together research highlights and news from all RSC publications, *Chemical Biology* provides a 'snapshot' of the latest developments in chemical biology, showcasing news-worthy articles and significant scientific advances.

HOT OFF THE PRESS

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Hot off the Press

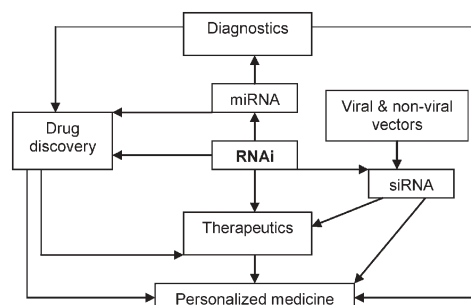
Topics highlighted in this month's *Hot off the Press* include high-throughput screening of mutant glycosyltransferases, the structure of a Mg^{+2} channel/transporter and the use of t-RNA as a template for quantum dot synthesis and some items published recently in the RSC's journals.

523

Commercial potential of RNAi

K. K. Jain*

This article explores the commercial potential of RNAi based on current research and applications in drug discovery, diagnostics and clinical trials. RNAi will contribute to the development of personalised medicine.



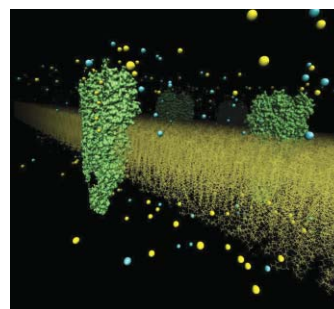
REVIEWS

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Understanding ion channel selectivity and gating and their role in cellular signalling

Ben Corry

Ion channels are essential in the communication between cells. A critical assessment is presented of our current understanding of how channels discriminate between ions and allow them passage at the appropriate times.

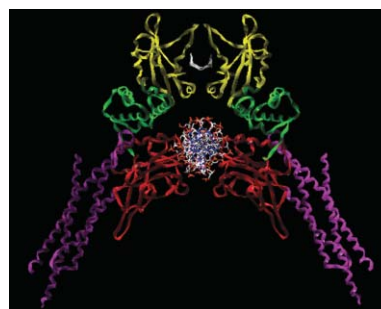


536

Structure, function, and regulation of STAT proteins

Cheh Peng Lim and Xinmin Cao*

Here, we describe the structure, function, and regulation of both unphosphorylated and phosphorylated STATs. STAT isoforms from alternative splicing or proteolytic processing, and post-translational modifications affecting STAT activities are also discussed.

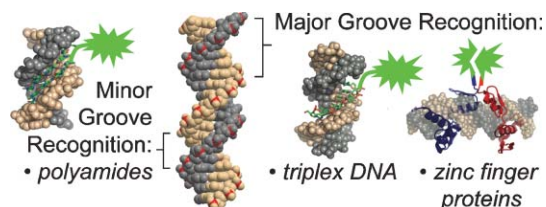


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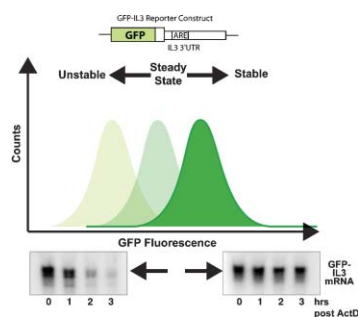
Direct detection of double-stranded DNA: molecular methods and applications for DNA diagnostics

Indraneel Ghosh,* Cliff I. Stains, Aik T. Ooi and David J. Segal*

Much progress has been made adapting polyamides, triplex DNA, and engineered zinc finger DNA-binding proteins for direct detection of dsDNA in diagnostic systems. The sequence-enabled reassembly (SEER) method, using custom zinc finger proteins, is highlighted for its implications for cell-based diagnostics and therapeutics.”



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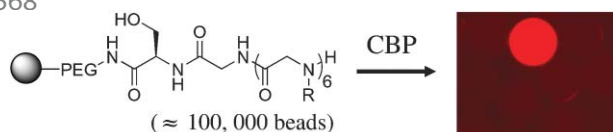
A GFP-based assay for monitoring post-transcriptional regulation of ARE-mRNA turnover

Don Benjamin, Marco Colombi, Georg Stoecklin and Christoph Moroni*

A simple, rapid green fluorescent protein (GFP)-based assay to monitor post-transcriptional gene regulation by mRNA turnover in mammalian cells.

PAPERS

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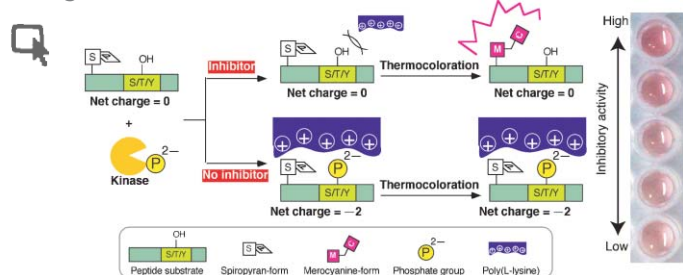


Isolation and characterization of coactivator-binding peptoids from a combinatorial library

Prasanna Alluri, Bo Liu, Peng Yu, Xiangshu Xiao and Thomas Kodadek*

A large combinatorial library of peptoids was screened to identify a ligand for the mammalian coactivator CBP, which is shown to function as a transactivation domain in cells.

580



Rational design of homogenous protein kinase assay platforms that allow both fluorometric and colorimetric signal readouts

Kin-ya Tomizaki and Hisakazu Mihara*

We describe a unique chromism-based assay (CHROBA) for the direct measurement of protein kinase activities, which can be performed in a microplate format with both fluorometric and colorimetric readouts and would be useful for high-throughput drug discovery and analysis of the phosphoproteome.

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