

Cover

Solving the puzzle of protein-protein interaction. While the fit between two protein molecules in a complex resembles lock and key, the structures of the two free molecules before binding are usually far less complementary. This matrix (modified from the original figure for the cover) illustrates how different the two conformation sets can be. For a report on the development of a novel model, which explains the binding process and reconciles the popular notions of »induced fit« and »conformer selection«, see Raik Grünberg's article on pages 127–129.

B.I.F. INTERNAL

- 80 Particulars
- 81 Reisende soll man ziehen lassen
- 151 Events, Imprint

RESEARCH

83 Sébastien Pfeffer, Gunter Meister, Markus Landthaler, Thomas Tuschl RNA silencing. 90th International Titisee Conference

The discovery of RNA interference (RNAi), the sequence-specific regulation of gene expression by double-stranded RNA molecules, is thought to be one of the most important findings in the last decade. At the conference, leading scientists discussed the natural function of the small RNAs involved in RNAi and the possibility of exploiting RNAi to mediate silencing of disease-causing genes.

92 Joerg Leers, Rainer Renkawitz
Curbing the genome. The DNA-binding
factor CTCF co-ordinates gene expression
Correct temporal and spatial expression of a particular gene involves the concerted action of a great
number of different regulatory factors. The DNAbinding protein CTCF may be the genome organizer
which enables co-ordinated function of regulatory
factors concentrated in subnuclear domains.

SCIENCE

97 Cornelius Schmaltz, Henrike Hartmann, Anja Fließ

Funding knowledge for tomorrow. The Volkswagen Foundation – a partner for creative researchers

A portrait of one of Germany's most potent private research funding organizations. It was founded by the Federal Republic of Germany and the State of Lower Saxony after converting one of Germany's most important automobile manufacturers, the Volkswagen Corporation, into a stock company. Today, the Foundation provides approximately 100 million euros each year for research projects in all disciplines of basic research.

PROJECTS

103 U3 snoRNP structure determination by single-particle electron microscopy · Role of Vegfa/Kdr signalling in muscle and haematopoietic cell development • HIF-2α in hypoxic gene regulation and tumour progression · Large-scale RNAi screen for polarized membrane trafficking in C. elegans · HFE hemochromatosis - which cell types are the players? · Characterization of the chromosomal passenger complex · Insights into the splice site formation of group II intron ribozymes • Molecular mechanism of immunoglobulin light chain isotype exclusion · Epigenetic reprogramming in the maternal germ line and during early embryonic development • The role of natural killer cells in Epstein-Barr virus infection • Protein misfolding and disease ·

RESULTS

120 Lars Dietrich

The role of protein palmitoylation in membrane fusion

123 Cornelia Doebis

A gene therapeutic approach for prolonged allograft survival

127 Raik Grünberg

Proteins on the edge of binding

130 Martin Kahms

Ras signalling: role of post-translational modifications in protein interaction and localization

134 Kimberly Kotovic

Co-transcriptional recruitment of the U1 snRNP

138 Christian Rochford

Targeting gene therapy to neuroinflammatory lesions in experimental autoimmune encephalomyelitis

143 Ian Siemens

Characterization of the Usher syndrome gene *CDH23* in the vertebrate inner ear

146 Christine Vogel

A domain perspective on the evolution of the protein repertoire