

#### Cover

The red flour beetle Tribolium castaneum – a new model system for studying embryonic head development. For further details, see the article by Gregor Bucher and Ernst A. Wimmer on pages 165-170.

#### **B.I.F. INTERNAL**

154 Particulars

**155** Drei Stiftungen – ein Stifterwille

225 Events, Imprint

# RESEARCH

157 Rafaela Holtappels

Dominating immune response. Immunodominance and its significance in immunity Only a small fraction of the many thousands of antigens presented to the immune system induces measurable responses. The purpose served by this immunodominance phenomenon is currently one of the hot topics in immunology.

164 Gregor Bucher, Ernst A. Wimmer
Beetle a-head. Investigating embryonic head
formation using a novel model organism
The prime model organisms, mouse and Drosophila,
are not very suitable for studying head development
and so very little is known about its mechanisms.
The red flour beetle Tribolium castaneum may help
to close the gap.

# **SCIENCE**

170 Peter Steinecke

Why patents? Protecting inventions in biology and medicine

What does it take to convert a finding in basic research into a patent? The author describes the criteria that must be fulfilled and the effort involved.

## **PROJECTS**

Investigation of TOR signalling in *D. melanogaster* by quantitative phosphoproteomics •
 Role of histone methylation in paternal transmission of epigenetic information •
 Genetic analysis of vertebrate blood vessel development • Proteomic analysis of the

caveosome · Involvement of SFKs in the orientation of cell division axis . The co-ordination of cell proliferation and differentiation in Caenorhabditis elegans · Neural correlates of temporally discounted value · microRNAs: from biogenesis to biological function • Modelling Alzheimer's disease in mice with a human immune system • Biophysical mechanisms of morphogenesis · Functional characterization of the conserved Ser/Thr kinase NDR in mammals · The identification of novel acetylated proteins during HIV-1 infection · Identification of telomere-specific histone modifications that regulate trypanosome pathogenicity · Visualization of the intracellular trafficking routes of CD1d  $\cdot$ Regulation of filopodia and lamellipodia dynamics in Drosophila •

### **RESULTS**

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Modelling the origin and spread of cardiac excitation

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Nrf transcription factors are crucial to skin cancer prevention, but not to wound repair

204 Matthias Nowak

 $\Delta Np63\alpha$  activity is controlled by protein degradation and regulates functionally distinct sets of target genes during skin development

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Summation of synaptic inputs in cortical neurons

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**Evolution and function of the APOBEC protein family** 

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Rab7 mediates sorting of Semliki forest virus from early to late endosomes

**221** *Mathias F. Wernet*Patterning the fly retina for colour and

polarized light vision