Cover: The germinal vesicle (nucleus) of late-stage Xenopus laevis oocytes provides an ideal model to study the assembly and dynamics of non-membrane-bound subnuclear particles. The germinal vesicle features many large nucleoli that contain extrachromosomal copies of rRNA genes, RNA and proteins. Immunofluorescent labeling of nucleolin (red), dsDNA (blue), and amyloid (green) highlights the organization of a single 10 μm nucleolus. For further details, see Hayes et al. in this issue on page 801. Image provided by D. L. Weeks and licenced under a Creative Commons Attribution 4.0 International licence.

RESEARCH ARTICLES

669 MicroRNA-93 promotes the malignant phenotypes of human glioma cells and induces their chemoresistance to temozolomide

678 Drosophila Pkaap regulates Rab4/Rab11-dependent traffic and Rab11 exocytosis of innate immune cargo
Sorvina, A., Shandala, T. and Brooks, D. A.

689 Disruption of a cystine transporter downregulates expression of genes involved in sulfur regulation and cellular respiration

698 Activation of PI3K signaling prevents aminoglycoside-induced hair cell death in the murine cochlea
Jadali, A. and Kwan, K. Y.

709 In vitro transdifferentiation of human peripheral blood mononuclear cells to photoreceptor-like cells
Komuta, Y., Ishii, T., Kaneda, M., Ueda, Y., Miyamoto, K., Toyoda, M., Umezawa, A. and Seko, Y.

720 Optimum harvest maturity for Leymus chinensis seed
Lin, J., Wang, Y., Qi, M., Li, X., Yang, C., Wang, Y. and Mu, C.

726 SMN and coilin negatively regulate dyskerin association with telomerase RNA
Poole, A. R. and Hebert, M. D.

736 Spermidine, but not spermine, is essential for pigment pattern formation in zebrafish

745 Role of carriers in the transmission of pneumonia in bighorn sheep (Ovis canadensis)
Raghavan, B., Erickson, K., Kugadas, A., Batra, S. A., Call, D. R., Davis, M. A., Foreyt, W. J. and Srikanmaran, S.

756 Physiological profiles associated with ceasing growth of unfertilized eggs produced by unmated queens in the subterranean termite Reticulitermes chinensis
Li, G., Liu, L., Sun, P., Wu, Y., Lei, C., Chen, X. and Huang, Q.

764 Effects of TiO₂ nanoparticles on nutrition metabolism in silkworm fat body

770 Body-enlarging effect of royal jelly in a non-holometabolous insect species, Gryllus bimaculatus
Miyashita, A., Kizaki, H., Sekimizu, K. and Kaito, C.

777 Non-Smc element 5 (Nse5) of the Smc5/6 complex interacts with SUMO pathway components
Bustard, D. E., Ball, L. G. and Cobb, J. A.

786 How low can they go when going with the flow? Tolerance of egg and larval fishes to rapid decompression

794 Downregulation of leptin inhibits growth and induces apoptosis of lung cancer cells via the Notch and JAK/STAT3 signaling pathways

801 Amyloids assemble as part of recognizable structures during oogenesis in Xenopus
Hayes, M. H. and Weeks, D. L.

807 De novo actin polymerization is required for model Hirano body formation in Dictyostelium

819 Zebrafish fin regeneration after cryoinjury-induced tissue damage
Chassot, B., Purdy, D. and Jaźwińska, A.
Metabolomics reveals significant variations in metabolites and correlations regarding the maturation of walnuts (*Juglans regia* L.)
Rao, G., Sui, J. and Zhang, J.

Capturing the dynamic nascent transcriptome during acute cellular responses: The serum response
Kirkconnell, K. S., Paulsen, M. T., Magnuson, B., Bedi, K. and Ljungman, M.

Genome-wide analysis of auxin response factor gene family members in medicinal model plant *Salvia miltiorrhiza*
Xu, Z., Ji, A., Song, J. and Chen, S.

Sipa11 is an early biomarker of liver fibrosis in CCl₄-treated rats
Marfà, S., Morales-Ruiz, M., Oró, D., Ribera, J., Fernández-Varo, G. and Jiménez, W.

Reprogrammable CRISPR/Cas9-based system for inducing site-specific DNA methylation

Quantitative analysis of 3D extracellular matrix remodelling by pancreatic stellate cells