



**Cover:** Immunostaining of mouse seminiferous tubules with antibodies against acetylated histone H4K12 (red) and phosphorylated H2AX (green). See article by L. N. Reynard and J. M. A. Turner (pp. 4239-4248).

**Cell Science at a Glance**

4009 **Anti-integrin monoclonal antibodies.** Byron, A., Humphries, J. D., Askari, J. A., Craig, S. E., Mould, A. P. and Humphries, M. J.

**Commentaries**

4013 **Telomeric armor: the layers of end protection.** Oganessian, L. and Karlseder, J.

4027 **Defining specificity of transcription factor regulatory activities.** Eeckhoutte, J., Métivier, R. and Salbert, G.

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4035 **KazrinE is a desmosome-associated liprin that colocalises with acetylated microtubules.** Nachat, R., Cipolat, S., Sevilla, L. M., Chhatiwala, M., Groot, K. R. and Watt, F. M.

4042 **Membrane type-1 matrix metalloproteinase activity is regulated by the endocytic collagen receptor Endo180.** Messaritou, G., East, L., Roghi, C., Isacke, C. M. and Yarwood, H.

**Research Articles**

4049 **Xenopus  $\delta$ -catenin is essential in early embryogenesis and is functionally linked to cadherins and small GTPases.** Gu, D., Sater, A. K., Ji, H., Cho, K., Clark, M., Stratton, S. A., Barton, M. C., Lu, Q. and McCrea, P. D.

4062 **Clathrin-independent internalization of normal cellular prion protein in neuroblastoma cells is associated with the Arf6 pathway.** Kang, Y.-S., Zhao, X., Lovaas, J., Eisenberg, E. and Greene, L. E.

4070 **Human RPA phosphorylation by ATR stimulates DNA synthesis and prevents ssDNA accumulation during DNA-replication stress.** Vassin, V. M., Anantha, R. W., Sokolova, E., Kanner, S. and Borowiec, J. A.

4081 **HSCARG inhibits activation of NF- $\kappa$ B by interacting with I $\kappa$ B kinase- $\beta$ .** Gan, Q., Li, T., Hu, B., Lian, M. and Zheng, X.

4089 **VAMP3, syntaxin-13 and SNAP23 are involved in secretion of matrix metalloproteinases, degradation of the extracellular matrix and cell invasion.** Kean, M. J., Williams, K. C., Skalski, M., Myers, D., Burtnik, A., Foster, D. and Coppolino, M. G.

4099 **Dynamics and molecular interactions of linker of nucleoskeleton and cytoskeleton (LINC) complex proteins.** Östlund, C., Folker, E. S., Choi, J. C., Gomes, E. R., Gundersen, G. G. and Worman, H. J.

4109 **Frequenin/NCS-1 and the Ca<sup>2+</sup>-channel  $\alpha_1$ -subunit co-regulate synaptic transmission and nerve-terminal growth.** Dason, J. S., Romero-Pozuelo, J., Marin, L., Iyengar, B. G., Klose, M. K., Ferrús, A. and Atwood, H. L.

4122 **Reprogramming of *Xist* against the pluripotent state in fusion hybrids.** Do, J. T., Han, D. W., Gentile, L., Sobek-Klocke, I., Wutz, A. and Schöler, H. R.

4130 **A role for the DNA-damage checkpoint kinase Chk1 in the virulence program of the fungus *Ustilago maydis*.** Mielnichuk, N., Sgarlata, C. and Pérez-Martin, J.

4141 **Tumor-suppression functions of merlin are independent of its role as an organizer of the actin cytoskeleton in Schwann cells.** Lallemand, D., Lampin Saint-Amaux, A. and Giovannini, M.

4150 **Stat3 promotes directional cell migration by regulating Rac1 activity via its activator PIX.** Teng, T. S., Lin, B., Manser, E., Ng, D. C. H. and Cao, X.

4160 **Regulation of adipogenic differentiation by LAR tyrosine phosphatase in human mesenchymal stem cells and 3T3-L1 preadipocytes.** Kim, W.-K., Jung, H., Kim, D.-H., Kim, E.-Y., Chung, J.-W., Cho, Y.-S., Park, S.-G., Park, B.-C., Ko, Y., Bae, K.-H. and Lee, S.-C.

4168 **Studies of haspin-depleted cells reveal that spindle-pole integrity in mitosis requires chromosome cohesion.** Dai, J., Kateneva, A. V. and Higgins, J. M. G.

4177 **Cayman ataxia protein caytaxin is transported by kinesin along neurites through binding to kinesin light chains.** Aoyama, T., Hata, S., Nakao, T., Tanigawa, Y., Oka, C. and Kawaichi, M.

4186 **Rapid endocytosis provides restricted somatic expression of a K<sup>+</sup> channel in central neurons.** Corrêa, S. A. L., Müller, J., Collingridge, G. L. and Marrion, N. V.

4195 **Downregulation of thymosin  $\beta$ 4 in neural progenitor grafts promotes spinal cord regeneration.** Mollinari, C., Ricci-Vitiani, L., Pieri, M., Lucantoni, C., Rinaldi, A. M., Racaniello, M., De Maria, R., Zona, C., Pallini, R., Merlo, D. and Garaci, E.

4208 **Loss of the mammalian APC/C activator FZR1 shortens G1 and lengthens S phase but has little effect on exit from mitosis.** Sigl, R., Wandke, C., Rauch, V., Kirk, J., Hunt, T. and Geley, S.

4218 **In vivo analysis of the functions of  $\gamma$ -tubulin-complex proteins.** Xiong, Y. and Oakley, B. R.

4228 **Distinct roles for Crk adaptor isoforms in actin reorganization induced by extracellular signals.** Antoku, S. and Mayer, B. J.

4239 **Increased sex chromosome expression and epigenetic abnormalities in spermatids from male mice with Y chromosome deletions.** Reynard, L. N. and Turner, J. M. A.