



**Cover:** Carmine Alum stained wholemount of a mouse mammary gland after 8 weeks of postnatal development. In their paper, McCaffrey et al. show that Numb regulates cortical cell tension, which is necessary to maintain proper cell shape and packing density during mammary duct elongation. Image credit: Sudipa J. Chatterjee. Image licensed under a Creative Commons Attribution 4.0 International license.

## RESEARCH ARTICLES

Unanchored ubiquitin chains do not lead to marked alterations in gene expression in *Drosophila melanogaster*

**Blount, J. R., Meyer, D. N., Akemann, C., Johnson, S. L., Gurdziel, K., Baker, T. R. and Todi, S. V.**

bio043372

Re-evaluation of the causes of variation among mouse aggregation chimaeras

**West, J. D., Tang, P.-C., Everett, C. A., MacKay, G. E., Flockhart, J. H. and Keighren, M. A.**

bio042804

Numb regulates cell tension required for mammary duct elongation

**Chatterjee, S. J., Halaoui, R., Deagle, R. C., Rejon, C. and McCaffrey, L.**

bio042341

The optimal mechanical condition in stem cell-to-tenocyte differentiation determined with the homogeneous strain distributions and the cellular orientation control

**Morita, Y., Sato, T., Higashiura, K., Hirano, Y., Matsubara, F., Oshima, K., Niwa, K., Toku, Y., Song, G., Luo, Q. and Ju, Y.**

bio039164

Cold adaptive potential of pine wood nematodes overwintering in plant hosts

**Liu, Z., Li, Y., Pan, L., Meng, F. and Zhang, X.**

bio041616

Physiological and behavioral stress responses to predators are altered by prior predator experience in juvenile qingbo (*Spinibarbus sinensis*)

**Xu, J.-J., Fu, S.-J. and Fu, C.**

bio041012

Defining the dynamic chromatin landscape of mouse nephron progenitors

**Hilliard, S., Song, R., Liu, H., Chen, C.-h., Li, Y., Baddoo, M., Flemington, E., Wanek, A., Kolls, J., Saifudeen, Z. and El-Dahr, S. S.**

bio042754

Tpl2 is required for VEGF-A-stimulated signal transduction and endothelial cell function

**Fearnley, G. W., Abdul-Zani, I., Latham, A. M., Hollstein, M. C., Ladbury, J. E., Wheatcroft, S. B., Odell, A. F. and Ponnambalam, S.**

bio034215

Blockage of glutamine-dependent anaplerosis affects mTORC1/2 activity and ultimately leads to cellular senescence-like response

**Liao, G.-Y., Lee, M.-T., Fan, J.-J., Hsiao, P.-W., Lee, C.-S., Su, S.-Y., Hwang, J.-J. and Ke, F.-C.**

bio038257

Dietary iron restriction leads to a reduction in hepatic fibrosis in a rat model of non-alcoholic steatohepatitis

**Abe, N., Tsuchida, T., Yasuda, S.-I. and Oka, K.**

bio040519

Quantitative proteomic profiling of tumor-associated vascular endothelial cells in colorectal cancer

**Wang, G., Yang, Q., Li, M., Zhang, Y., Cai, Y., Liang, X., Fu, Y., Xiao, Z., Zhou, M., Xie, Z., Huang, H., Huang, Y., Chen, Y., He, Q., Peng, F. and Chen, Z.**

bio042838

Xenotransplantation of Human glioblastoma in Zebrafish larvae: *in vivo* imaging and proliferation assessment

**Vargas-Patron, L. A., Agudelo-Dueñas, N., Madrid-Wolff, J., Venegas, J. A., González, J. M., Forero-Shelton, M. and Akle, V.**

bio043257

Effects of chronic inhibition of Testosterone metabolism on cardiac remodeling after ischemia/reperfusion-induced myocardial damage in gonadectomized rats

**Maldonado, O., Ramos, A., Guapillo, M., Rivera, J., Palma, I., Rubio-Gayosso, I., Ramirez-Sanchez, I., Najera, N., Ceballos, G. and Mendez-Bolaina, E.**

bio041905

Pioglitazone abolishes cognition impairments as well as BDNF and neurotensin disturbances in a rat model of autism

**Kirsten, T. B., Casarin, R. C., Bernardi, M. M. and Felicio, L. F.**

bio041327

Meiosis in the scorpion *Tityus silvestris*: new insights into achiasmatic chromosomes

**de Almeida, B. R. R., Noronha, R. C. R., da Costa, M. J. R., Nagamachi, C. Y. and Pieczarka, J. C.**

bio040352

Karyoevolution of *Crenicichla heckel* 1840 (Cichlidae, Perciformes): a process mediated by inversions

**Frade, L. F. d. S., de Almeida, B. R. R., Milhomem-Paixão, S. S. R., Ready, J. S., Nagamachi, C. Y., Pieczarka, J. C. and Noronha, R. C. R.**

bio041699

Longitudinal characterization of diet-induced genetic murine models of non-alcoholic steatohepatitis with metabolic, histological, and transcriptomic hallmarks of human patients

**Abe, N., Kato, S., Tsuchida, T., Sugimoto, K., Saito, R., Verschuren, L., Kleemann, R. and Oka, K.**

bio041251

Hedgehog signaling regulates osteoblast differentiation in zebrafish larvae through modulation of autophagy

**Hu, Z., Chen, B. and Zhao, Q.**

bio040840

Exosomal transfer of bone marrow mesenchymal stem cell-derived miR-340 attenuates endometrial fibrosis  
**Xiao, B., Zhu, Y., Huang, J., Wang, T., Wang, F. and Sun, S.**  
bio039958

Physiological profile of undifferentiated bovine blastocyst-derived trophoblasts  
**Pillai, V. V., Siqueira, L. G., Das, M., Kei, T. G., Tu, L. N., Herren, A. W., Phinney, B. S., Cheong, S. H., Hansen, P. J. and Selvaraj, V.**  
bio037937

Intercellular transfer of P-glycoprotein mediates the formation of stable multi-drug resistance in human bladder cancer BIU-87 cells  
**Cheng, X.-Z., Zhou, H.-L., Tang, S.-X., Jiang, T., Chen, Q., Gao, R. and Ding, Y.-L.**  
bio041889

#### METHODS AND TECHNIQUES

*SuperCLEM*: an accessible correlative light and electron microscopy approach for investigation of neurons and glia *in vitro*  
**Booth, D. G., Beckett, A. J., Prior, I. A. and Meijer, D.**  
bio042085

Beyond the whole-mount phenotype: high-resolution imaging in fluorescence-based applications on zebrafish  
**Oralová, V., Rosa, J. T., Soenens, M., Bek, J. W., Willaert, A., Witten, P. E. and Huysseune, A.**  
bio042374

Detection of changes in mitochondrial hydrogen sulfide *in vivo* in the fish model *Poecilia mexicana* (Poeciliidae)  
**Lau, G. Y., Barts, N., Hartley, R. C., Tobler, M., Richards, J. G., Murphy, M. P. and Arndt, S.**  
bio041467

High-yield isolation of menstrual blood-derived endometrial stem cells by direct red blood cell lysis treatment  
**Sun, Y., Ren, Y., Yang, F., He, Y., Liang, S., Guan, L., Cheng, F., Liu, Y. and Lin, J.**  
bio038885

#### FIRST PERSON

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bio044321

First person – Xiao-Zhi Cheng  
bio043752