



**Cover:** Primary cell populations isolated from neonatal rat myocardium co-cultured with human extraembryonic mesenchymal stem cells (FTM HUCPVCs). Human cells (purple nuclei) integrate with the primary rat cardiac tissue (blue nuclei) and assume cardiac phenotypes, including sarcomeric actinin (red) positivity. Endoplasmic reticulum labelling is applied as counterstain (green). Such phenotypical and lineage commitment changes are only detectable during long term maintenance of co-cultures, providing high homogeneity and high cell viability even with high starting cell numbers. Homogenous and long-lasting cultures from high seeding density were achieved using the column-augmented culture dish described in Szaraz et al. Image licensed under a Creative Commons Attribution 4.0 International license.

## RESEARCH ARTICLES

Acclimation temperature changes spermatozoa flagella length relative to head size in brown trout  
**Fenkes, M., Fitzpatrick, J. L., Shiels, H. A. and Nudds, R. L.**  
bio039461

Lineage-specific determination of ring neuron circuitry in the central complex of *Drosophila*  
**Bridi, J. C., Ludlow, Z. N. and Hirth, F.**  
bio045062

Characterization of plant growth promoting rhizobacteria and their benefits on growth and phosphate nutrition of faba bean and wheat  
**Bechtaoui, N., Rklami, A., Tahiri, A.-I., Benidire, L., El Alaoui, A., Meddich, A., Göttfert, M. and Oufdou, K.**  
bio043968

Minimal effects of *spargel* (PGC-1) overexpression in a *Drosophila* mitochondrial disease model  
**George, J. and Jacobs, H. T.**  
bio042135

Surface expression marker profile in colon cancer cell lines and sphere-derived cells suggests complexity in CD26<sup>+</sup> cancer stem cells subsets  
**Vázquez-Iglesias, L., Barcia-Castro, L., Rodríguez-Quiroga, M., Páez de la Cadena, M., Rodríguez-Berrocal, J. and Cordero, O. J.**  
bio041673

Intestinal lipid droplets as novel mediators of host–pathogen interaction in *Drosophila*  
**Harsh, S., Heryanto, C. and Eleftherianos, I.**  
bio039040

Exogenous hydrogen sulfide mitigates NLRP3 inflammasome-mediated inflammation through promoting autophagy via the AMPK-mTOR pathway  
**Wang, H., Zhong, P. and Sun, L.**  
bio043653

Effects of fish caudal fin sweep angle and kinematics on thrust production during low-speed thunniform swimming  
**Matta, A., Bayandor, J., Battaglia, F. and Pendar, H.**  
bio040626

The *Prrx1* limb enhancer marks an adult subpopulation of injury-responsive dermal fibroblasts  
**Currie, J. D., Grosser, L., Murawala, P., Schuez, M., Michel, M., Tanaka, E. M. and Sandoval-Guzmán, T.**  
bio043711

Chemotropic signaling by BMP7 requires selective interaction at a key residue in ActRIIA  
**Perron, J. C., Rodrigues, A. A., Surubholta, N. and Dodd, J.**  
bio042283

Polyunsaturated fatty acids promote *Plasmodium falciparum* gametocytogenesis  
**Tanaka, T. Q., Tokuoka, S. M., Nakatani, D., Hamano, F., Kawazu, S.-i., Wellems, T. E., Kita, K., Shimizu, T. and Tokumasu, F.**  
bio042259

Analysis of novel hyperosmotic shock response suggests ‘beads in liquid’ cytosol structure  
**Alexandrov, A. I., Grosfeld, E. V., Dergalev, A. A., Kushnirov, V. V., Chuprov-Netochin, R. N., Tyurin-Kuzmin, P. A., Kireev, I. I., Ter-Avanesyan, M. D., Leonov, S. V. and Agaphonov, M. O.**  
bio044529

Finding a home in the noise: cross-modal impact of anthropogenic vibration on animal search behaviour  
**Roberts, L. and Laidre, M. E.**  
bio041988

In the human sperm nucleus, nucleosomes form spatially restricted domains consistent with programmed nucleosome positioning  
**Zhang, M.-Z., Cao, X.-M., Xu, F.-Q., Liang, X.-W., Fu, L.-L., Li, B., Liu, W.-G., Li, S.-G., Sun, F.-Z., Huang, X.-Y. and Huang, W.-H.**  
bio041368

The effects of crizotinib in a transgenic *Drosophila* model expressing the human TPM4-ALK fusion gene or TPM4  
**Kim, Y. J., Cho, A.-R., Sul, H. J., Kim, B., Kim, A.-Y., Kim, H. S., Seo, J. B., Koh, Y. and Zang, D. Y.**  
bio044362

Cell migration directionality and speed are independently regulated by RasG and Gβ in *Dictyostelium* cells in electrotaxis  
**Jeon, T. J., Gao, R., Kim, H., Lee, A., Jeon, P., Devreotes, P. N. and Zhao, M.**  
bio042457

Collagen vitrigel promotes hepatocytic differentiation of induced pluripotent stem cells into functional hepatocyte-like cells  
**Nakai, S., Shibata, I., Shitamichi, T., Yamaguchi, H., Takagi, N., Inoue, T., Nakagawa, T., Kiyokawa, J., Wakabayashi, S., Miyoshi, T., Higashi, E., Ishida, S., Shiraki, N. and Kume, S.**  
bio042192

Whole-brain mapping of projection from mouse lateral septal nucleus  
**Deng, K., Yang, L., Xie, J., Tang, H., Wu, G.-S. and Luo, H.-R.**  
bio043554

The Y227N mutation affects bestrophin-1 protein stability and impairs sperm function in a mouse model of Best vitelliform macular dystrophy

**Milenkovic, A., Schmied, D., Tanimoto, N., Seeliger, M. W., Sparrow, J. R. and Weber, B. H. F.**

bio041335

Role of ALDH1A1 and HTRA2 expression in CCL2/CCR2-mediated breast cancer cell growth and invasion

**Hu, Q., Myers, M., Fang, W., Yao, M., Brummer, G., Hawj, J., Smart, C., Berkland, C. and Cheng, N.**

bio040873

Different functional roles for K<sup>+</sup> channel subtypes in regulating small intestinal glucose and ion transport

**Du, C., Chen, S., Wan, H., Chen, L., Li, L., Guo, H., Tuo, B. and Dong, H.**

bio042200

### METHODS AND TECHNIQUES

A solution to prevent secondary flow in adherent cell cultures

**Szaraz, P., Librach, M., Mander, P., Hoseini, B., Librach, M., Iqbal, F. and Librach, C.**

bio045294

### FIRST PERSON

First person – Peter Szaraz

bio046136

First person – Josh Currie

bio046292

First person – Jeanette C. Perron

bio045781

First person – Louise Roberts

bio045880

First person – Qingting Hu

bio045484

### CORRECTION

Correction: Effect of initial body orientation on escape probability of prey fish escaping from predators (doi:10.1242/bio.023812)

**Kimura, H. and Kawabata, Y.**

bio045997