



**Cover:** Murine tibialis anterior muscle cross-section showing infiltrating adipocytes (red). Muscle fibres (grey) are revealed using phalloidin; nuclei (blue) are stained with Hoechst 33342 dye. See article by Reggio et al. (dmm049915). Cover image is licensed under a Creative Commons Attribution 4.0 International license.

## EDITORIAL

Back to the future through the wormhole: *Caenorhabditis elegans* as a preclinical model

**Caldwell, G. A.**  
dmm050333

## OBITUARY

Jeffrey W. Pollard: a tribute

**Kitamura, T.**  
dmm050325

## A MODEL FOR LIFE

See[ing] elegance in sensory biology: an interview with Piali Sengupta

**Sengupta, P.**  
dmm050321

## PERSPECTIVE

Muscle-on-a-chip devices: a new era for *in vitro* modelling of muscular dystrophies

**Fernández-Costa, J. M., Tejedera-Vilafranca, A.,  
Fernández-Garibay, X. and Ramón-Azcón, J.**  
dmm050107

## REVIEWS

CYLD in health and disease

**Marín-Rubio, J. L., Raote, I., Inns, J., Dobson-Stone, C. and  
Rajan, N.**  
dmm050093

*Caenorhabditis elegans* for research on cancer hallmarks

**Cerón, J.**  
dmm050079

## RESEARCH ARTICLES

NR2F1 shapes mitochondria in the mouse brain, providing new insights into Bosch-Boonstra-Schaaf optic atrophy syndrome

**Bonzano, S., Dallorto, E., Molineris, I., Michelon, F.,  
Crisci, I., Gambarotta, G., Neri, F., Oliviero, S.,  
Beckervordersandforth, R., Lie, D. C., Peretto, P., Bovetti, S.,  
Studer, M. and Marchis, S. D.**  
dmm049854

A 3D adipogenesis platform to study the fate of fibro/adipogenic progenitors in muscular dystrophies

**Reggio, A., De Paolis, F., Boussemi, S., Ciccirelli, F.,  
Bernardini, S., Rainer, A., Seliktar, D., Testa, S.,  
Cirillo, C., Grumati, P., Cannata, S., Fuoco, C. and Gargioli, C.**  
dmm049915

A systematic review of kidney-on-a-chip-based models to study human renal (patho-)physiology

**Nguyen, V. V. T., Gkouzioti, V., Maass, C., Verhaar, M. C.,  
Vernooij, R. W. M. and van Balkom, B. W. M.**  
dmm050113

An O-GlcNAc transferase pathogenic variant linked to intellectual disability affects pluripotent stem cell self-renewal

**Omelková, M., Fenger, C. D., Murray, M., Hammer, T. B.,  
Pravata, V. M., Bartual, S. G., Czajewski, I., Bayat, A.,  
Ferenbach, A. T., Stavridis, M. P. and van Aalten, D. M. F.**  
dmm049132

Effectiveness of irinotecan plus trabectedin on a desmoplastic small round cell tumor patient-derived xenograft

**Zuco, V., Pasquali, S., Tortoreto, M., Percio, S., Doldi, V.,  
Barisella, M., Collini, P., Dagrada, G. P., Brich, S.,  
Gasparini, P., Fiore, M., Casanova, M., Frezza, A. M.,  
Gronchi, A., Stacchiotti, S., Ferrari, A. and Zaffaroni, N.**  
dmm049649

Lack of expression of miR-29a/b1 impairs bladder function in male mice

**Wang, Z., Spitz, R., Vezina, C., Hou, J. and Bjorling, D. E.**  
dmm050054

Leader peptide or pro-segment mutants of renin are misrouted to mitochondria in autosomal dominant tubulointerstitial kidney disease

**Schaeffer, C., De Fusco, M., Pasqualetto, E., Scolari, C.,  
Izzi, C., Scolari, F. and Rampoldi, L.**  
dmm049963

Ultrasound-stimulated microbubbles enhanced vascular disruption in fractionated radiotherapy-treated tumours via ASMase activation

**Leong, K. X., Yang, W., Sharma, D., Liu, S. and Czarnota, G. J.**  
dmm049531

Crosstalk between androgen receptor and WNT/ $\beta$ -catenin signaling causes sex-specific adrenocortical hyperplasia in mice

**Lyraki, R., Grabek, A., Tison, A., Weerasinghe  
Arachchige, L. C., Peitzsch, M., Bechmann, N., Youssef, S. A.,  
de Bruin, A., Bakker, E. R. M., Claessens, F.,  
Chaboissier, M.-C. and Schedl, A.**  
dmm050053

Unexpected phenotypic and molecular changes of combined glucocerebrosidase and acid sphingomyelinase deficiency

**Keatinge, M., Gegg, M. E., Watson, L., Mortiboys, H.,  
Li, N., Dunning, M., Ailani, D., Bui, H., van Rens, A.,  
Lefeber, D. J., Schapira, A. H. V., MacDonald, R. B. and  
Bandmann, O.**  
dmm049954

Vemurafenib improves muscle histopathology in a mouse model of *LAMA2*-related congenital muscular dystrophy

**Oliveira-Santos, A., Dagda, M., Wittmann, J., Smalley, R. and  
Burkin, D. J.**  
dmm049916

Development of the aganglionic colon following surgical rescue in a cell therapy model of Hirschsprung disease in rat

**Furness, J. B., Lei, E., Hunne, B., Adams, C. D., Burns, A. J., Wykosky, J., Fazio Coles, T. E., Fothergill, L. J., Molero, J. C., Pustovit, R. V. and Stamp, L. A.**

dmm050055

## RESOURCE ARTICLES

Optical measurement of gating pore currents in hypokalemic periodic paralysis model cells

**Kubota, T., Takahashi, S., Yamamoto, R., Sato, R., Miyanooto, A., Yamamoto, R., Yamauchi, K., Homma, K. and Takahashi, M. P.**

dmm049704

deCLUTTER<sup>2+</sup> – a pipeline to analyze calcium traces in a stem cell model for ventral midbrain patterned astrocytes

**Grochowska, M. M., Ferraro, F., Mascaro, A. C., Natale, D., Winkelaar, A., Boumeester, V., Breedveld, G. J., Bonifati, V. and Mandemakers, W.**

dmm049980

Facial analytics based on a coordinate extrapolation system (zFACE) for morphometric phenotyping of developing zebrafish

**Maili, L., Ruiz, O. E., Kahan, P. H., Chiu, F., Larson, S. T., Hashmi, S. S., Hecht, J. T. and Eisenhoffer, G. T.**

dmm049868

An automated microscopy workflow to study *Shigella*–neutrophil interactions and antibiotic efficacy *in vivo*

**Lensen, A., Gomes, M. C., López-Jiménez, A. T. and Mostowy, S.**

dmm049908

An *arginase 2* promoter transgenic line illuminates immune cell polarisation in zebrafish

**Hammond, F. R., Lewis, A., Speirs, Z. C., Anderson, H. E., Sipka, T., Williams, L. G., Nguyen-Chi, M., Meijer, A. H., Wiegertjes, G. F. and Elks, P. M.**

dmm049966

## FIRST PERSON

First person – Sara Bonzano

dmm050335

First person – Valentina Zuco

dmm050313

First person – Lorena Maili

dmm050302

First person – Ariany Oliveira-Santos

dmm050221

First person – Rodanthi Lyraki

dmm050246

First person – Arthur Lensen and Margarida C. Gomes

dmm050255