



**Cover:** 3D reconstructions of *Drosophila* macrophages imaged live *in vivo* using confocal microscopy at different stages of apoptotic corpse engulfment. Macrophages, labelled with cytoplasmic GFP (green) and nuclear RFP (magenta), often extend long pseudopods to reach their apoptotic targets, which are rapidly retracted for processing within the cell body. Image credit: Helen Weavers (University of Bristol, UK).

## EDITORIAL

Insights into the role of immune cells in development and regeneration

**Ginhoux, F. and Martin, P.**  
dev200829

## SPOTLIGHTS

Organoids as a tool for understanding immune-mediated intestinal regeneration and development

**Jowett, G. M., Coales, I. and Neves, J. F.**  
dev199904

Non-traditional roles of immune cells in regeneration: an evolutionary perspective

**Arinda, B. N., Innabi, Y. A., Grasis, J. A. and Oviedo, N. J.**  
dev199903

## DEVELOPMENT AT A GLANCE

Biology of resident tissue macrophages

**Lee, C. Z. W. and Ginhoux, F.**  
dev200270

## MEETING REVIEW

Immune cell-stem cell interactions in regeneration and repair: who's calling the shots?

**Samperio Ventayol, P. and Bartfeld, S.**  
dev200228

## REVIEWS

Microglia in brain development and regeneration

**Mehl, L. C., Manjally, A. V., Bouadi, O., Gibson, E. M. and Tay, T. L.**  
dev200425

The origins and roles of osteoclasts in bone development, homeostasis and repair

**Yahara, Y., Nguyen, T., Ishikawa, K., Kamei, K. and Alman, B. A.**  
dev199908

Regenerative neurogenesis: the integration of developmental, physiological and immune signals

**Becker, T. and Becker, C. G.**  
dev199907

Immune cells in cardiac repair and regeneration

**Simões, F. C. and Riley, P. R.**  
dev199906

## HUMAN DEVELOPMENT

Derivation of extra-embryonic and intra-embryonic macrophage lineages from human pluripotent stem cells

**Bredemeyer, A. L., Amrute, J. M., Koenig, A. L., Idol, R. A., He, L., Luff, S. A., Dege, C., Leid, J. M., Schilling, J. D., Hinson, J. T., Dinauer, M. C., Sturgeon, C. M. and Lavine, K. J.**  
dev200016

Immune landscape of human placental villi using single-cell analysis

**Toothaker, J. M., Olaloye, O., McCourt, B. T., McCourt, C. C., Silva, T. N., Case, R. M., Liu, P., Yimlamai, D., Tseng, G. and Konnikova, L.**  
dev200013

The molecular and phenotypic makeup of fetal human skin T lymphocytes

**Reitermaier, R., Ayub, T., Staller, J., Kienzl, P., Fortelny, N., Vieyra-Garcia, P. A., Worda, C., Fiala, C., Staud, C., Eppel, W., Scharrer, A., Krausgruber, T. and Elbe-Bürger, A.**  
dev199781

## STEM CELLS AND REGENERATION

Avian auditory hair cell regeneration is accompanied by JAK/STAT-dependent expression of immune-related genes in supporting cells

**Janesick, A. S., Scheibinger, M., Benkafadar, N., Kirti, S. and Heller, S.**

dev200113

MyD88-dependent TLR signaling oppositely regulates hematopoietic progenitor and stem cell formation in the embryo

**Bennett, L. F., Mumau, M. D., Li, Y. and Speck, N. A.**  
dev200025

IL7R $\alpha$ , but not Flk2, is required for hematopoietic stem cell reconstitution of tissue-resident lymphoid cells

**Worthington, A. K., Cool, T., Poscablo, D. M., Hussaini, A., Beaudin, A. E. and Forsberg, E. C.**  
dev200139

Toll signalling promotes blastema cell proliferation during cricket leg regeneration via insect macrophages

**Bando, T., Okumura, M., Bando, Y., Hagiwara, M., Hamada, Y., Ishimaru, Y., Mito, T., Kawaguchi, E., Inoue, T., Agata, K., Noji, S. and Ohuchi, H.**  
dev199916

Selective Cdk9 inhibition resolves neutrophilic inflammation and enhances cardiac regeneration in larval zebrafish

**Kaveh, A., Bruton, F. A., Oremek, M. E. M., Tucker, C. S., Taylor, J. M., Mullins, J. J., Rossi, A. G. and Denvir, M. A.**  
dev199636

## RESEARCH REPORTS

Erythro-myeloid progenitor origin of Hofbauer cells in the early mouse placenta

**Freyer, L., Lallemand, Y., Dardenne, P., Sommer, A., Biton, A. and Gomez Perdiguero, E.**  
dev200104

Elevated numbers of infiltrating eosinophils accelerate the progression of Duchenne muscular dystrophy pathology in *mdx* mice

**Theret, M., Rempel, L., Hashimoto, J., Ritso, M., Tung, L. W., Li, F. F., Messing, M., Hughes, M., McNagny, K. and Rossi, F.**  
dev200112

Retinal ganglion cell survival after severe optic nerve injury is modulated by crosstalk between Jak/Stat signaling and innate immune responses in the zebrafish retina

**Chen, S., Lathrop, K. L., Kuwajima, T. and Gross, J. M.**  
dev199694

## RESEARCH ARTICLES

Laser-mediated osteoblast ablation triggers a pro-osteogenic inflammatory response regulated by reactive oxygen species and glucocorticoid signaling in zebrafish

**Geurtzen, K., López-Delgado, A. C., Duseja, A., Kurzyukova, A. and Knopf, F.**  
dev199803

The immune environment of the mammary gland fluctuates during post-lactational regression and correlates with tumour growth rate

**Hitchcock, J., Hughes, K., Pensa, S., Lloyd-Lewis, B. and Watson, C. J.**  
dev200162

Defining the *Hoxb8* cell lineage during murine definitive hematopoiesis

**Van Deren, D. A., De, S., Xu, B., Eschenbacher, K. M., Zhang, S. and Capecchi, M. R.**  
dev200200

Natural killer cells act as an extrinsic barrier for *in vivo* reprogramming

**Melendez, E., Chondronasiou, D., Mosteiro, L., Martínez de Villarreal, J., Fernández-Alfara, M., Lynch, C. J., Grimm, D., Real, F. X., Alcamí, J., Climent, N., Pietrocola, F. and Serrano, M.**  
dev200361

A kinase-dead *Csf1r* mutation associated with adult-onset leukoencephalopathy has a dominant inhibitory impact on CSF1R signalling

**Stables, J., Green, E. K., Sehgal, A., Patkar, O. L., Keshvari, S., Taylor, I., Ashcroft, M. E., Grabert, K., Wollscheid-Lengeling, E., Szymkowiak, S., McColl, B. W., Adamson, A., Humphreys, N. E., Mueller, W., Starobova, H., Vetter, I., Kiani Shabestari, S., Blurton-Jones, M. M., Summers, K. M., Irvine, K. M., Pridans, C. and Hume, D. A.**  
dev200237

Blood progenitor redox homeostasis through olfaction-derived systemic GABA in hematopoietic growth control in *Drosophila*

**Goyal, M., Tomar, A., Madhwal, S. and Mukherjee, T.**  
dev199550

Maternal B cell signaling orchestrates fetal development in mice

**Busse, M., Langwisch, S., Tedford, K., Fischer, K.-D. and Zenclussen, A. C.**  
dev199783