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Stem cells: Getting in the driver's seat

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Sponsor Foreword

tem cells are a class of pluripotent cells that have the ability to self-replicate and possess multi-directional differentiation potential. These human seed cells are referred to as universal cells in medicine. Stem cells and their differentiation products offer a new pathway to repair damaged human tissues and organs, as well as cure many serious conditions, including cardiovascular diseases, metabolic diseases, neurological disorders and autoimmune diseases. Regenerative medicine, with stem-cell therapy at its core, provides a new therapeutic option and will be at the heart of the next medical revolution.



The development of stem-cell research in China has followed a linear path over the past decade. Stem-cell research has gone from being an obscure field to a strong, growing one that is attracting increasing government support. China's world-leading stem-cell research and scientific output now cover all aspects of this area. For example, researchers based in China have discovered the mechanisms by which glioblastoma stem cells promote the growth of cancer tumors and somatic cells are reprogrammed. Furthermore, they have traced the formation of blood stem cells at a single-cell level and used the genetic editing of stem cells to remedy a genetic disorder in mice.

Flow cytometry is an important method for studying stem cells, and BD Biosciences specializes in this technique, providing instruments, reagents, data analysis, technical support and service. BD Biosciences is also a long-term partner with Nature Research. BD Biosciences has collaborated with Nature Research to publish this reprint collection on stem cells, which offers stem-cell researchers important articles in the field. By providing the research community with top-quality products and professional services, BD Biosciences is committed to promoting further scientific development.

Wen Lu

Vice President of BD Biosciences, Greater China



- 2 Tumour-associated macrophages secrete pleiotrophin to promote PTPRZ1 signalling in glioblastoma stem cells for tumour growth. Shi, Y. et al.

 Nat. Commun. 8, 15080 (2017)
- **19** Autophagy and mTORC1 regulate the stochastic phase of somatic cell reprogramming. Wu, Y. et al. *Nat. Cell Biol.* **17**, 715–725 (2015)
- **30** Tracing haematopoietic stem cell formation at single-cell resolution. Zhou, F. *et al. Nature* **533**, 487–492 (2016)
- **36** Correction of a genetic disease by CRISPR-Cas9-mediated gene editing in mouse spermatogonial stem cells. Wu, Y. *et al. Cell Res.* **25**, 67–79 (2015)

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