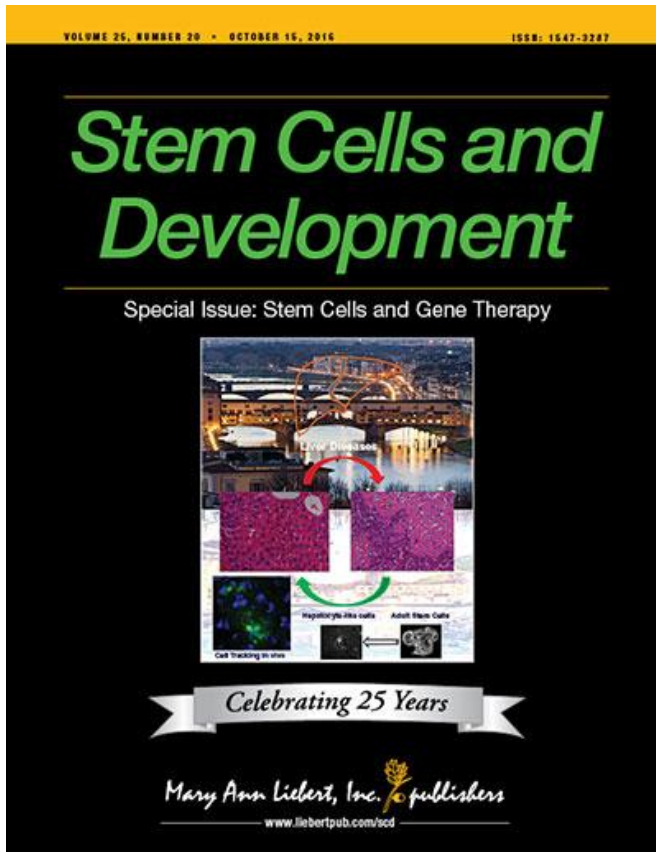


Researchers describe how tumors recruit and use stem cells to support tumor growth and progression

20 October 2016



Yang and Xiong-Zhi Wu, Tianjin Medical University Cancer Institute and Hospital, and Tianjin Medical University and General Hospital, describe their results in the article entitled "[bFGF Promotes Migration and Induces Cancer-associated Fibroblasts Differentiation of Mouse Bone Mesenchymal Stem Cells to Promote Tumor Growth.](#)" The authors show that [breast cancer cells](#) use basic fibroblast growth factor (bFGF) signaling to help them attract bone mesenchymal [stem cells](#) (MSCs) and induce their conversion into CAFs. They present evidence of the pro-tumor effects of stem cell recruitment and CAFs, primarily through their effects on the tumor microenvironment.

"Here we have for the first time a mechanistic underpinning of how a tumor might recruit MSCs and induce their conversion to cancer-associated fibroblasts which then facilitate [tumor progression](#)," says Editor-in-Chief Graham C. Parker, PhD, The Carman and Ann Adams Department of Pediatrics, Wayne State University School of Medicine, Detroit, MI. "The crucial role of bFGF signaling provides not only a greater understanding of the process, but also suggests therapeutic targets."

Credit: Mary Ann Liebert, Inc., publishers

A new study has identified a mechanism used by tumors to recruit stem cells from bone and convert them into cancer-associated fibroblasts (CAFs) that facilitate tumor progression. This work, which pinpoints the specific biochemical pathways and cell signaling molecules involved in these processes, could lead to new therapeutic targets for suppressing tumor growth, as discussed in an article in *Stem Cells and Development*.

A team of researchers from China, led by Xue

More information: Xue Yang et al, bFGF promotes migration and induces cancer-associated fibroblasts differentiation of mouse bone mesenchymal stem cells to promote tumor growth, *Stem Cells and Development* (2016). [DOI: 10.1089/scd.2016.0217](#)

Provided by Mary Ann Liebert, Inc

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