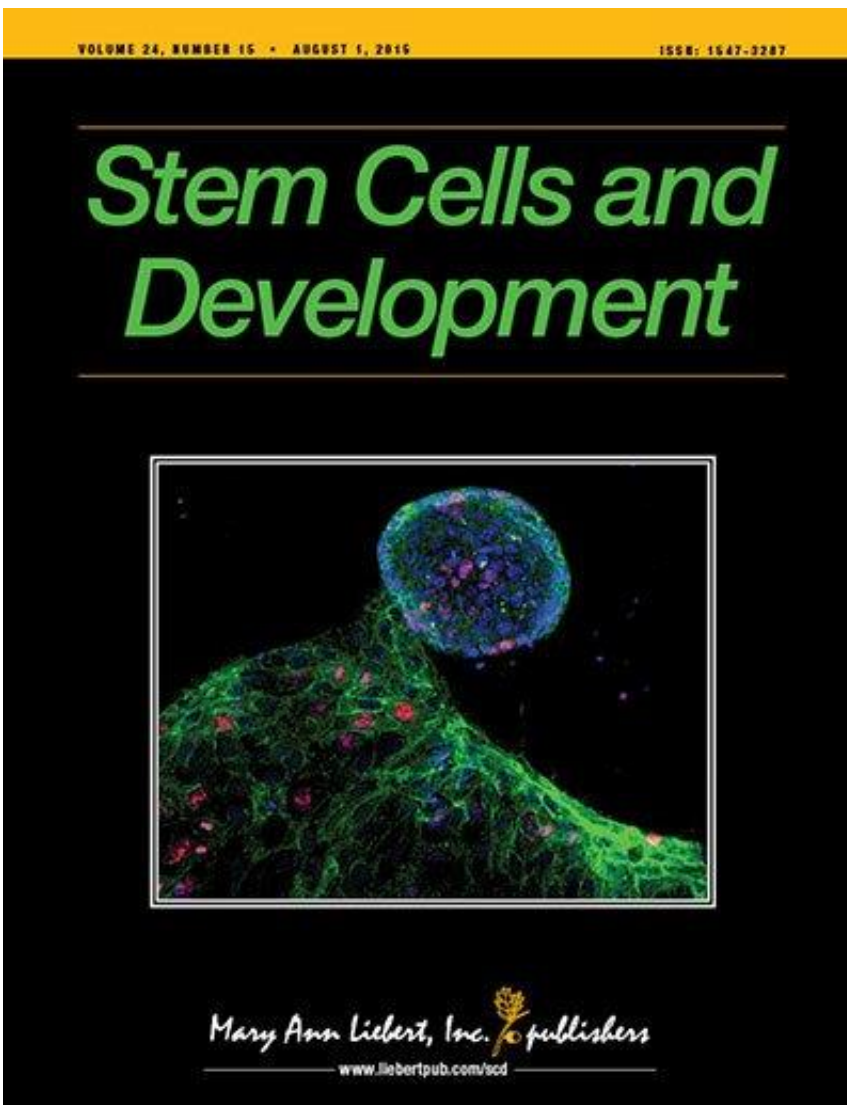


Protein identified that favors neuroprotective glial cell formation from stem cells

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Credit: Mary Ann Liebert, Inc., publishers

An international team of researchers has shown that NFIX, a protein that regulates neuronal stem cell activity (NSC), also has a role in driving NSC differentiation toward oligodendrocytes, a type of glial cell. These cells produce the myelin that surrounds and protects neurons. Evidence supporting this mechanism in mice and its potential in the development of NSC-based therapy for brain injury, demyelinating diseases, and brain tumors are discussed in a study published in *Stem Cells and Development*.

Bo Zhou, Richard Gronostajski, and coauthors from State University of New York at Buffalo, University of Heidelberg, Germany, MRC, London, U.K., and University of Queensland, Brisbane, Australia, demonstrate that when the transcription factor Nuclear Factor I X (NFIX) is present, NSCs are less likely to differentiate into oligodendrocytes. As NFIX levels decreased in mice after birth, however, differentiation of the NSCs to a glial fate was favored. The researchers report their findings in the article "[Loss of NFIX Transcription Factor Biases Postnatal Neural Stem/Progenitor Cells Towards Oligodendrogenesis.](#)"

"The authors demonstrate that NFIX is an important regulator of oligodendrogenic lineage specification using both in vitro as well as in vivo models," says Editor-in-Chief Graham C. Parker, PhD, The Carman and Ann Adams Department of Pediatrics, Wayne State University School of Medicine, Detroit, MI. "They have provided not only vital information concerning neural [stem cell differentiation](#) but also a target for manipulating neural development.

More information: The article is available free on the *Stem Cells and Development* website until September 6, 2015.

Provided by Mary Ann Liebert, Inc

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