

Inner ear stem cells hold promise for restoring hearing

June 21 2014



Spiral ganglion cells are essential for hearing and their irreversible degeneration in the inner ear is common in most types of hearing loss. Adult spiral ganglion cells are not able to regenerate. However, new evidence in a mouse model shows that spiral ganglion stem cells present

in the inner ear are capable of self-renewal and can be grown and induced to differentiate into mature spiral ganglion cells as well as neurons and glial cells, as described in an article in *BioResearch Open Access*.

Marc Diensthuber and coauthors from Goethe-University (Frankfurt, Germany), Justus-Liebig University (Giessen, Germany), Harvard Medical School and Massachusetts Eye and Ear Infirmary (Boston, MA), and Harvard University and MIT (Cambridge, MA), conclude that the self-renewing properties demonstrated by spiral ganglion stem cells make them a promising source of replacement cells for therapies designed to regenerate the neural structures of the [inner ear](#) in the article "[Spiral Ganglion Stem Cells Can Be Propagated and Differentiated Into Neurons and Glia](#)."

"These findings are particularly interesting as they show that spiral ganglion stem cells can be propagated in vitro," says *BioResearch Open Access* Editor Jane Taylor, PhD, MRC Centre for Regenerative Medicine, University of Edinburgh, Scotland. "These cells are normally poorly regenerated in the mammalian ear."

More information: The article is available free on the *BioResearch Open Access* [website](#).

Provided by Mary Ann Liebert, Inc

Citation: Inner ear stem cells hold promise for restoring hearing (2014, June 21) retrieved 13 May 2023 from <https://medicalxpress.com/news/2014-06-ear-stem-cells.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is

provided for information purposes only.