

Retinal transplants may help restore sight

8 November 2006

British scientists have discovered non-dividing retinal cells implanted into adult mouse retina can generate new photoreceptors.

The University College London researchers say their finding suggests a possible way to regenerate photoreceptors lost from many forms of blindness.

Previously, stem cells transplanted into the adult retina have not integrated correctly and it was thought the retinal environment inhibits regeneration.

Robin Ali and colleagues at UCL's Institute of Ophthalmology extracted immature retinal cells from newborn mice at a time when many rod photoreceptors are normally being generated, and transplanted them into adult mouse retinas.

The scientists found the cells differentiated into rods, formed synaptic connections and, when transplanted into certain mouse models of inherited retinal degeneration, improved the animals' response to light.

Surprisingly, they found that this was possible only using rod precursor cells during a specific time window of development, when they have stopped dividing rather than proliferating stem cells.

The results, say the researchers, suggest precursor cells grown from human adult or embryonic stem cells might also serve to restore sight, and challenge the assumption that stem cells offer the best prospect for tissue repair.

The study appears in the journal *Nature*.

Copyright 2006 by United Press International

APA citation: Retinal transplants may help restore sight (2006, November 8) retrieved 3 May 2021 from <https://medicalxpress.com/news/2006-11-retinal-transplants-sight.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.