

Researchers find stem cells from monkey teeth can stimulate growth and generation of brain cells

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Researchers at the Yerkes National Primate Research Center, Emory University, have discovered dental pulp stem cells can stimulate growth and generation of several types of neural cells. Findings from this study, available in the October issue of the journal *Stem Cells*, suggest dental pulp stem cells show promise for use in cell therapy and regenerative medicine, particularly therapies associated with the central nervous system.

Dental stem cells are adult stem cells, one of the two major divisions of stem cell research. Adult stem cells have the ability to regenerate many different types of cells, promising great therapeutic potential, especially for diseases such as Huntington's and Parkinson's. Already, dental pulp stem cells have been used for regeneration of dental and craniofacial cells.

Yerkes researcher Anthony Chan, DVM, PhD, and his team of researchers placed dental pulp stem cells from the tooth of a rhesus macaque into the hippocampal areas of mice. The dental pulp stem cells stimulated growth of new neural cells, and many of these formed neurons.

"By showing dental pulp stem cells are capable of stimulating growth of neurons, our study demonstrates the specific therapeutic potential of dental pulp stem cells and the broader potential for adult stem cells,"

says Chan, who also is assistant professor of human genetics in Emory School of Medicine.

Because dental pulp stem cells can be isolated from anyone at any age during a visit to the dentist, Chan is interested in the possibility of dental pulp stem cell banking. "Being able to use your own stem cells for therapy would greatly decrease the risk of cell rejection that we now experience in transplant medicine," says Chan.

Chan and his research team next plan to determine if dental pulp stem cells from monkeys with Huntington's disease can enhance brain cell development in the same way dental pulp stem cells from healthy monkeys do.

Source: Emory University

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