

Study: How stem cells become brain cells

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Oregon Health and Science University researchers say they've discovered a gene that appears to control how stem cells become brain cells.

Scientists at the Portland-based university's National Primate Research Center say the finding has significant implications for the study of Parkinson's disease, brain and spinal cord injury, and other conditions or diseases that might be combated by replacing lost or damaged brain cells.

"In the early stages of brain development prior to birth, brain stem cells, also known as neural stem cells, will differentiate into neurons," explained Larry Sherman, an adjunct associate professor of cell and developmental biology in the OHSU School of Medicine. "In later stages, these same stem cells suddenly start becoming glial cells, which perform a number of functions that include supporting the neurons.

"We wanted to find out what factors cause this switch in differentiation. We also wanted to determine if the process can be controlled and used as a possible therapy," said Sherman. "What amazed us is that it turns out a single gene may be responsible for this incredibly important task."

The research is published in the current online edition of the medical journal *Developmental Biology*.

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