

Stem cells study provides clues to aging

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An Italian researcher says adult stem cells may be the biological basis for a rare disease that causes premature aging in children.

Researchers at the U.S. National Cancer Institute said a mechanism involved in stem cell differentiation could help treat the accelerated aging disease known as Hutchinson-Gilford Progeria syndrome, the Italian news service ANSA said Tuesday.

Lead researcher Paola Scaffidi of Italy discovered in 2003 that the syndrome is caused by a mutated protein called progerin. New research by Scaffidi's team at the cancer institute indicates progerin activates genes involved in regulating the process by which stem cells develop into mature cells that make up different tissues.

"We saw that progerin caused intrinsic defects in the adult stem cells we used," Scaffidi told the Italian news agency ANSA. "This suggests that a transplant of healthy stem cells could theoretically be useful in treating patients. This is because it would, at least in part, rebuild a functional reserve of pluripotent stem cells."

The findings are published in the journal *Nature Cell Biology*.

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