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Study: Antibody transforms stem cells into neurons

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Singapore: Scientists at The Scripps Research Institute (TSRI), US, have found a way to transform bone marrow stem cells into neurons. The present techniques for turning patients' marrow cells into cells of some other desired type are relatively cumbersome, risky and effectively confined to the lab. The new finding points to the possibility of simpler and safer techniques.

The researchers discovered the method while looking for lab-grown antibodies that can activate a growth-stimulating receptor on marrow cells. The study has been published online in Proceedings of the National Academy of Science.

One antibody turned out to activate the receptor in a way that induces marrow stem cells, which normally develop into white blood cells, to become neural progenitor cells, a type of almost-mature brain cell.

Dr Richard A Lerner, Lita Annenberg Hazen professor of immunochemistry; institute professor in the Department of Cell and Molecular Biology at TSRI; and principal investigator of the study, said that, "These results highlight the potential of antibodies as versatile manipulators of cellular functions. This is a far cry from the way antibodies used to be thought of, as molecules that were selected simply for binding and not function."