Research may lead to new treatments for Parkinson's disease and other neurological disorders

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A group of scientists at Marshall University is conducting research that may someday lead to new treatments for repair of the central nervous system.

Dr. Elmer M. Price, who heads the research team and is chairman of Marshall's Department of Biological Sciences, said his group has identified and analyzed unique adult animal stem cells that can turn into neurons.

Price said the neurons they found appear to have many of the qualities desired for cells being used in development of therapies for slowly progressing, degenerative conditions like Parkinson's disease, Huntington's disease and multiple sclerosis, and for damage due to stroke or spinal cord injury.

According to Price, what makes the discovery especially interesting is that the source of these neural stem cells is adult blood, a readily available and safe source. Unlike embryonic stem cells, which have a tendency to cause cancer when transplanted for therapy, adult stems like those identified in Price's lab are found in the bodies of all living animals and do not appear to be carcinogenic.

"Neural stem cells are usually found in specific regions of the brain, but our observation of neural-like stem cells in blood raises the potential that

this may prove to be a source of cells for therapies aimed at neurological disorders," Price added.

So far, the group at Marshall has been able to isolate the unique neural cells from pig blood. Price said pigs are often used as models of human diseases due to their anatomical and physiological similarities to humans. In the future, his lab will work to isolate similar cells from human blood, paving the way for patients to perhaps one day be treated with stem cells derived from their own blood.

More information: The team's research was published in a recent issue of the *Journal of Cellular Physiology.*

Provided by Marshall University Research Corporation