

## **Study: Stem cells report olfactory nerves**

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U.S. researchers identified a "backup supply" of stem cells that can repair the most severely damaged nerves responsible for human olfactory sense.

The only nerve cells in the body to run directly from the brain to the outside world, olfactory cells are under constant assault from harsh chemicals that can cause damage or death.

To determine how the olfactory system repairs severely damaged nerve cells, Johns Hopkins University Professor Randall Reed and colleagues exposed mouse olfactory nerves to a cloud of toxic methyl-bromide gas that kills not only olfactory nerve cells but also neighboring, non-nerve cells in the nasal passage. Three weeks later the researchers examined the mice to see which, if any, nerve cells had regrown.

They discovered newly grown cells, both nerve and non-nerve, had grown from HBCs -- cells not previously known for repair abilities.

"We were stunned because HBCs normally don't grow much or do anything," said Reed. "And the most surprising thing is HBCs can grow into both nerves and non-nerve cells; they do so by generating the other active type of nasal stem cell."

The study appears in the journal Nature Neuroscience.

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