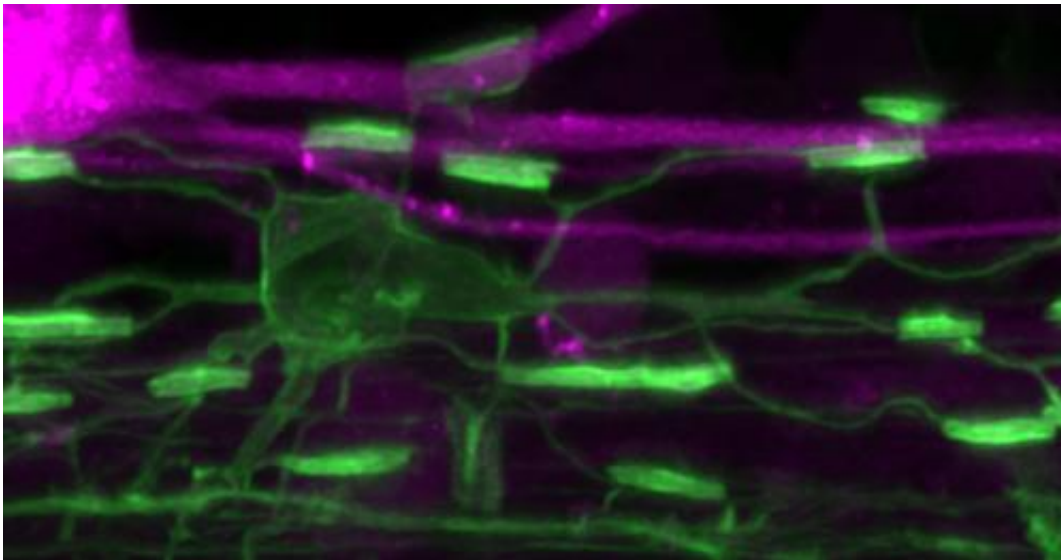


New research points to potential treatment strategies for multiple sclerosis

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Myelin, the fatty coating that protects neurons in the brain and spinal cord, is destroyed in diseases such as multiple sclerosis. Researchers have been striving to determine whether oligodendrocytes, the cells that produce myelin, can be stimulated to make new myelin. Using live imaging in zebrafish to track oligodendrocytes in real time, researchers reporting in the June 24 issue of the Cell Press journal *Developmental Cell* discovered that individual oligodendrocytes coat neurons with myelin for only five hours after they are born. If the findings hold true in humans, they could lead to new treatment strategies for multiple sclerosis. Credit: *Developmental Cell*, Czopka et al.

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"The study could help improve our understanding of the triggers needed to encourage cells to produce myelin," says senior author Dr. David Lyons, of the University of Edinburgh, UK. For example, if scientists could determine what is blocking the cells from making myelin after five hours, they might be able to remove that blockage. Alternatively, treatments could focus on creating more new oligodendrocytes rather than trying to stimulate existing oligodendrocytes.

Dr. Lyons and his team used zebrafish to study the formation of [myelin sheaths](#) by oligodendrocytes because this laboratory animal is transparent at early stages of its development, which allows investigators to directly observe cells within the organism. It is also known that zebrafish and humans have very similar genes, and these similarities extend to more than 80% of the genes associated with human disease. Zebrafish therefore respond in very similar ways to most drugs used for therapeutic purposes in humans.

"In the future, [zebrafish](#) will be used to identify new genes and drugs that can influence myelin formation and myelin repair," says Dr. Lyons.

More information: [dx.doi.org/10.1016/j.devcel.2013.05.013](https://doi.org/10.1016/j.devcel.2013.05.013)

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