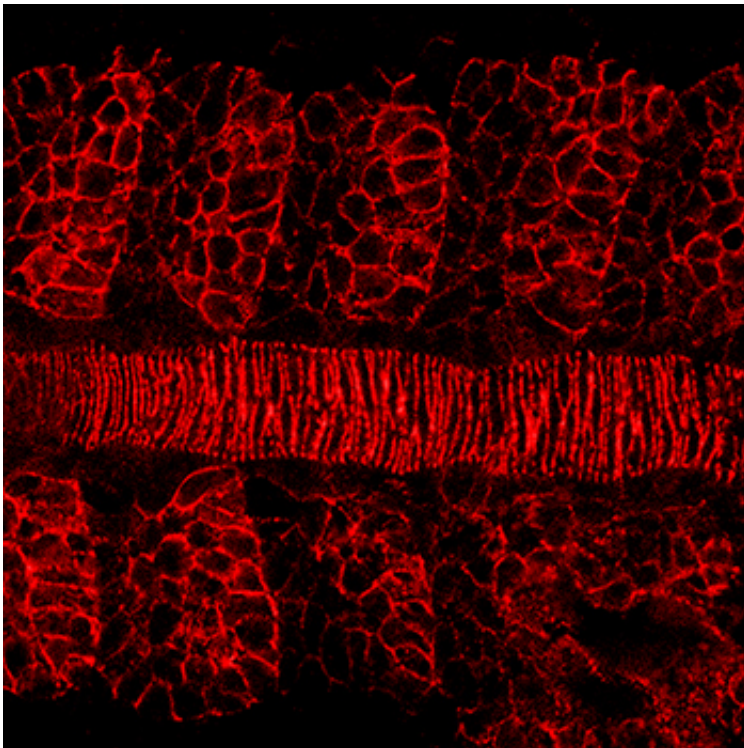


Straight spines depend upon sawtooth protein pattern

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The formation of the vertebrae in early embryonic development requires an intricate genetic dance requiring precise timing and interaction of many different cells.

A team of Yale scientists led by Scott Holley of the Department of Molecular, Cellular, and Developmental Biology illustrate the key role

played by the cell adhesion molecule cadherin in formation of segments called somites, which become the [vertebrae](#) and musculature.

In an image taken from a developing zebrafish, the sawtooth pattern of the cadherin protein within the somites can be seen on both sides of the notochord, which together with the somite will form the vertebral column.

In fish, somites form the flakes of flesh in a fish fillet. But if these structures do not form properly in fish or humans, the result can be defects of the vertebrae such as scoliosis. The research was published online Feb. 4 in the journal *Current Biology*.

More information: Patrick McMillen et al. A Sawtooth Pattern of Cadherin 2 Stability Mechanically Regulates Somite Morphogenesis, *Current Biology* (2016). [DOI: 10.1016/j.cub.2015.12.055](https://doi.org/10.1016/j.cub.2015.12.055)

Provided by Yale University

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