

# Study suggests that 'actin' is critical in genome regulation during nerve cell formation

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A new NYU Abu Dhabi study suggests for the first time that actin, which is a cytoskeleton protein found in the cell, is critical to regulating the genome—the genetic material of an organism—during the formation of "neurons" or nerve cells. The study was published today in *PLOS Genetics*.

Led by NYU Abu Dhabi Associate Professor of Biology Piergiorgio Percipalle, along with other researchers, this study involved converting "fibroblasts—cells that maintain connective tissues—with impaired actin expression into neurons in order to identify the role of Actin in neurogenesis. The implication of the methodology together with the availability of fibroblasts not expressing actin is far reaching. It will enable researchers to understand novel concepts in [genome](#) regulation and, in the long term, model diseases to identify druggable targets.

"The technology we've applied in my lab has given us the opportunity to identify novel factors and pathways involved in the regulation of the mammalian genome during neurogenesis—the formation of neurons—and has a lot of potential for the development of personalized medicines," says Percipalle, the study's lead researcher.

Provided by New York University

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