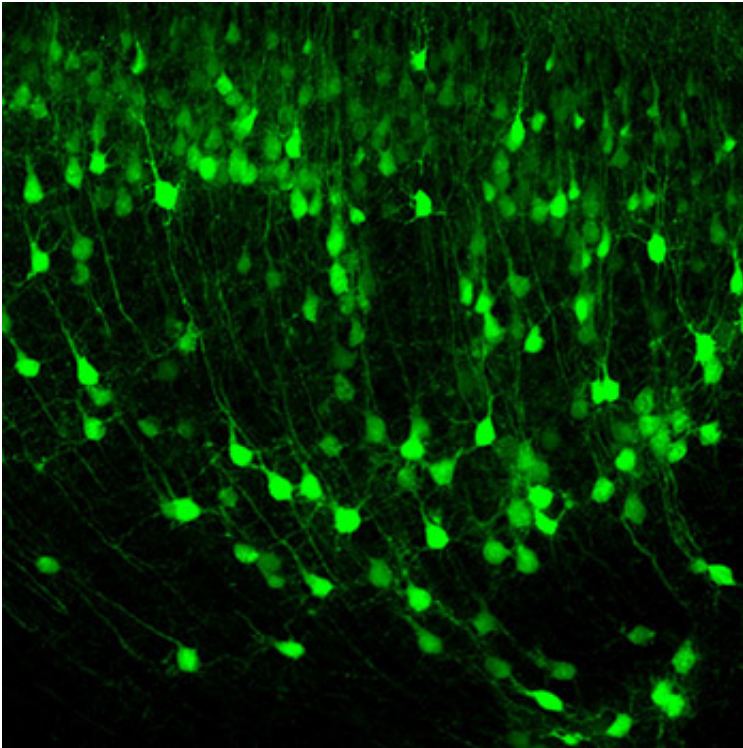


# Cause of cortical malformations targeted by researchers

September 22 2016, by Bill Hathaway

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Neurons stained in green are misshapen and misplaced in some cases of epilepsy.  
Credit: Yale University

Cortical malformations are a major cause of epileptic seizures and are a hallmark feature of many neurodevelopmental disorders. Expanding upon its recently-published model of cortical malformations, a Yale team lead by neuroscientist Angelique Bordey identified a molecular target that is critical in generating many of the cellular abnormalities

seen in this condition.

Restoring normal signaling through a major regulator of protein synthesis — eIF4E binding protein (4E-BP)—prevented the abnormal positioning, growth, and connectivity of disordered neurons. These findings highlight 4E-BP signaling as a potential drug target in the treatment of seizures and neurological impairments associated with cortical malformations.

The research is published in the *Proceedings of the National Academy of Sciences* and is available Sept. 19.

**More information:** Tiffany V. Lin et al. Normalizing translation through 4E-BP prevents mTOR-driven cortical mislamination and ameliorates aberrant neuron integration, *Proceedings of the National Academy of Sciences* (2016). [DOI: 10.1073/pnas.1605740113](https://doi.org/10.1073/pnas.1605740113)

Provided by Yale University

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