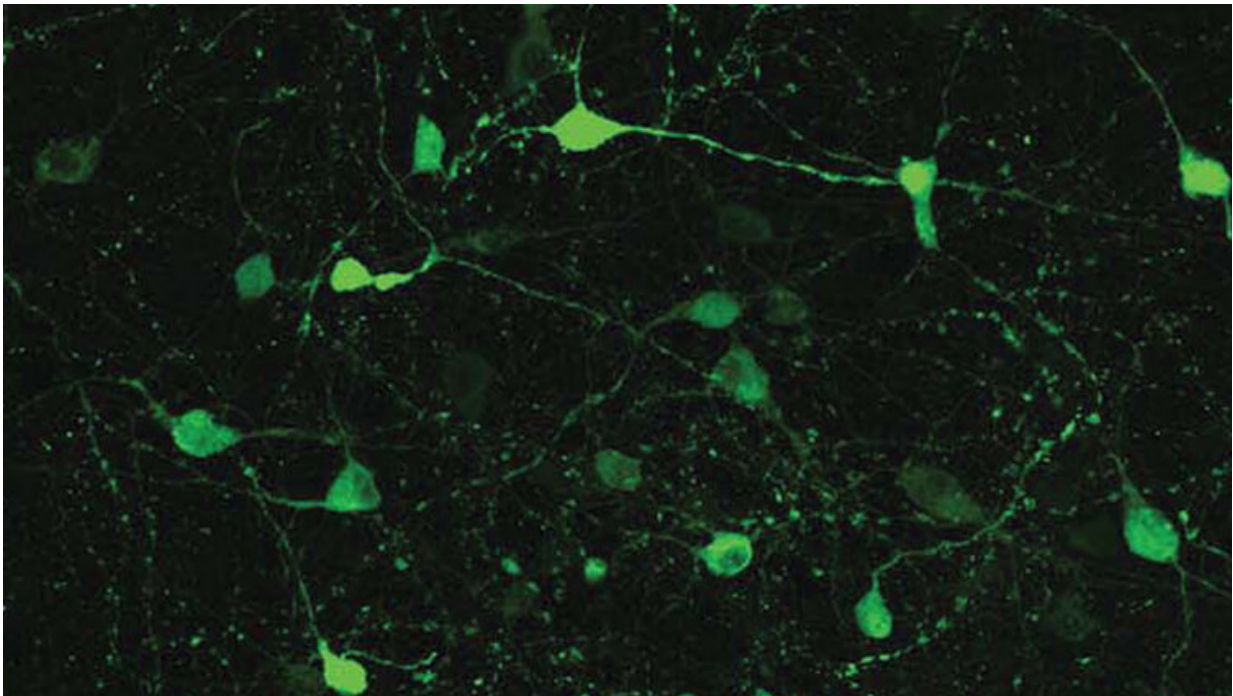


Researchers identify new hunger pathway in the brain

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Fluorescent calcium imaging of neurons in the hypothalamus. Credit: Andrew Rau *et al.*, *JNeurosci* 2019

A newly identified hunger pathway in the brain can quickly modify food intake in the presence of food, according to a study of mice published in *JNeurosci*. This pathway could be a future target for the treatment of eating disorders.

Food intake is modified by long-term signals such as hormones and molecules released during digestion, but a newly recognized circuit in the hypothalamus can change feeding behavior on a shorter timescale.

Using fluorescent calcium imaging and electrophysiological recording, Shane Hentges and Andrew Rau at Colorado State University identified a [pathway](#) in the hypothalamus that affects [food intake](#) and [body weight](#) through release of the neurotransmitter GABA, which can occur due to the detection, rather than consumption, of food.

The researchers found that food-deprived mice exhibited more GABA-related neuron activity, indicating that temporary energy states can directly affect feeding behavior. The knowledge of this pathway improves our understanding of how the brain controls energy balance.

More information: GABAergic Inputs to POMC Neurons Originating from the Dorsomedial Hypothalamus are Regulated by Energy State, *JNeurosci* (2019). [DOI: 10.1523/JNEUROSCI.3193-18.2019](https://doi.org/10.1523/JNEUROSCI.3193-18.2019)

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