

# Study points to treatment strategy for anorexia

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New research conducted in adolescent rodents provides insights on the mechanisms behind anorexia nervosa and points to a potential treatment strategy.

In experiments involving [food restriction](#) and/or exercise, investigators found that the extent to which certain receptors are expressed in neurons in a particular region of the brain can influence whether an adolescent female rat develops [anorexia nervosa](#)-like behavior, such as to exercise, rather than eat, in spite of being hungry.

The findings suggest that a risk factor for anorexia may be under-expression of these receptors,  $\alpha 4\beta\delta$ -GABAA called receptors, following stress. Therefore, boosting the activity of these [receptors](#) may be a promising treatment strategy.

"Anorexia nervosa has the highest mortality rate of any mental illness, surpassing even that of depression, and currently, there are no accepted pharmacological treatments," said Dr. Chiye Aoki, lead author of the *Journal of Neuroscience Research* article. "This makes the pursuit of effective medications particularly important. Rodent models enable scientists to separate cultural influences from the neurobiological basis of behaviors that are present in the illness."

**More information:** Chiye Aoki et al.  $\alpha 4\beta\delta$ -GABAA receptors in dorsal hippocampal CA1 of adolescent female rats traffic to the plasma membrane of dendritic spines following voluntary exercise and

contribute to protection of animals from activity-based anorexia through localization at excitator, *Journal of Neuroscience Research* (2017). [DOI: 10.1002/jnr.24035](https://doi.org/10.1002/jnr.24035)

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