

Researchers find a new genetic regulation pathway associated with obesity

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A study published in the journal *Advanced Science* describes for the first time a mechanism involved in the development of obesity. The study states that a group of microRNAs—small molecules that regulate the

expression of specific genes—could prevent the expansion of the obesity-associated fatty tissue. The study is led by teams of the University of Barcelona, the Bellvitge Biomedical Research Institute (IDIBELL) and the Girona Biomedical Research Institute (IDIBGI), and was funded by La Marató 2015 to research projects on diabetes and obesity.

According to the paper, the reduction of the expression of the mentioned microRNA group leads to an increase in the expression of the gamma synuclein gene (SNCG) which promotes the expansion of the deposits of fat. Regarding humans, the team notes that people with [obesity](#) show a lower expression of microRNAs, a reduction that reverses when these people lose weight.

"This reversion in the expression of the microRNA group when one loses weight shows that it is a dynamic and reversible pathway, therefore, we could learn to modulate it as a new treatment pathway against obesity", notes researcher Ruth Rodríguez-Barrueco, from the Faculty of Medicine and Health Sciences of the UB and IDIBELL, and first author of the study.

More information: Ruth Rodríguez-Barrueco et al, A microRNA Cluster Controls Fat Cell Differentiation and Adipose Tissue Expansion By Regulating SNCG, *Advanced Science* (2021). [DOI: 10.1002/advs.202104759](#)

Provided by University of Barcelona

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