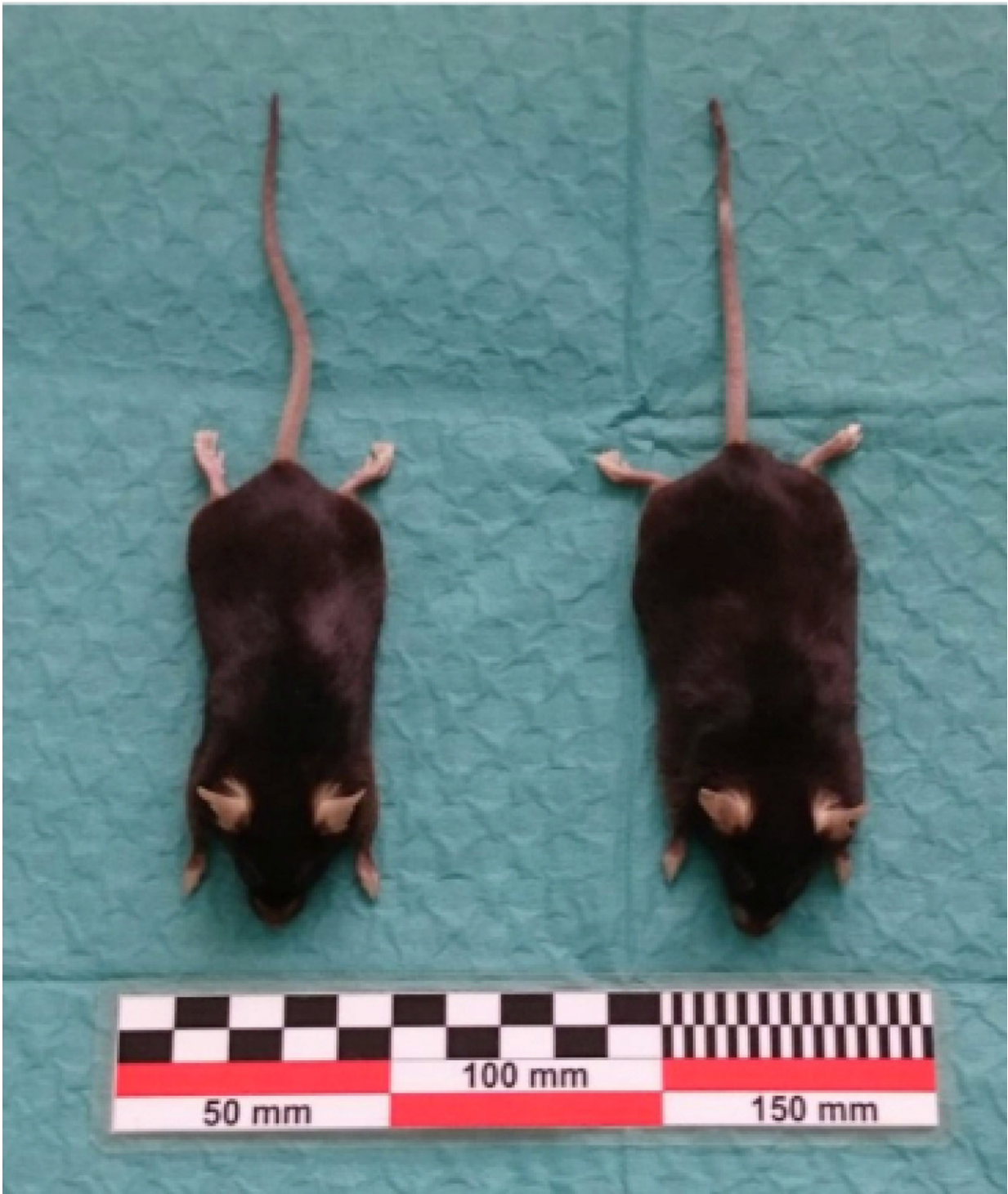


# **New link between obesity and body temperature**

March 12 2018

---

# *Wildtype*   *Trpm8<sup>-/-</sup>*



Representative photograph of 14 month-old female mice of both genotypes.

Credit: Reimúndez et al., *JNeurosci* (2018)

Reduced ability to maintain body temperature in colder environments may contribute to the development of obesity in adulthood, suggests a new study in mice published in *JNeurosci*.

Energy from food fuels maintenance of a constant body temperature by generating and conserving heat. Nearly half of the human energy budget spent during a sedentary life is used to maintain a body temperature of about 37 degrees Celsius (98.6 degrees Fahrenheit).

Rosa Señarís and colleagues from the University of Santiago de Compostela and the Institute of Neuroscience/University Miguel Hernandez of Alicante (Spain) found that, in a mildly cold environment, mice lacking the cold-sensing ion channel TRPM8 consumed more food during the day, when mice are usually asleep. The increased daytime eating started at a young age and led to obesity and [high blood sugar](#) in adulthood, which may have been caused in part by reduced fat utilization.

Compared to control animals, the TRPM8-deficient mice lost more body heat in mild cold, particularly during periods of fasting when their [body](#) temperature dropped below 30 degrees Celsius (86 degrees Fahrenheit). The research represents a previously unrecognized link between thermal sensing systems, thermoregulation and food intake, which may open up new avenues for preventing and treating obesity.

**More information:** Deletion of the cold thermoreceptor TRPM8 increases heat loss and food intake leading to reduced body temperature and obesity in mice, *JNeurosci* (2018). [DOI:](#)

[10.1523/JNEUROSCI.3002-17.2018](https://doi.org/10.1523/JNEUROSCI.3002-17.2018)

Provided by Society for Neuroscience

Citation: New link between obesity and body temperature (2018, March 12) retrieved 6 May 2024 from <https://medicalxpress.com/news/2018-03-link-obesity-body-temperature.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.