Novel Peptide Cuts Food Intake by 50%, Shows Anti-Obesity Potential in Animals: Study -Video

Overview

Could a naturally occurring molecule offer weight-loss benefits similar to Ozempic without some of its common side effects? Scientists at Stanford Medicine have identified a new peptide that reduced food intake by up to 50% in animal experiments and promoted fat loss without significant muscle loss.

Published in the journal Nature, the study investigated a molecule called BRP (BRINP2-related peptide), which appears to regulate appetite through brain pathways different from those targeted by existing GLP-1 medications.

Researchers used an artificial intelligence-based algorithm called Peptide Predictor to analyse approximately 20,000 human protein-coding genes and identify potentially useful hormone-like molecules.

The algorithm identified 373 candidate prohormones capable of producing approximately 2,683 peptides. Researchers subsequently tested 100 selected peptides on laboratory-grown neurons.

The findings revealed that BRP, a peptide containing just 12 amino acids, increased neuronal activity tenfold compared with untreated cells.

Further experiments in mice and minipigs showed that BRP injections reduced food consumption by up to 50% during the following hour.

Importantly, obese mice receiving daily BRP injections for 14 days lost an average of 3 grams, while untreated mice gained approximately 3 grams.

Researchers found that most of the weight lost by treated mice came from body fat rather than muscle.

The animals also demonstrated improvements in glucose and insulin tolerance, suggesting potential metabolic benefits beyond appetite suppression.

Unlike semaglutide, which acts on GLP-1 receptors found throughout the body, BRP appeared to influence specific neuronal pathways associated with appetite regulation in the hypothalamus.

Researchers also observed no significant changes in movement, water consumption, anxiety-related behaviour or faecal output in treated animals.

However, these observations do not establish that BRP would avoid nausea, constipation or other adverse effects in humans.

The molecule remains experimental, and its safety and effectiveness have not been evaluated in clinical trials.

REFERENCE: Laetitia Coassolo, et al.; Prohormone cleavage prediction uncovers a non-incretin anti-obesity peptide. Nature, 2025; 641 (8061): 192 DOI: 10.1038/s41586-025-08683-y

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