



TRPV1 Knock-In Method and TRPV1 Mice for Adipose Tissue Modulation

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Patent Status:

Patent Pending

Description of Technology

According to the Center for Disease Control, more than one third of American adults are considered obese. Obesity foreshadows metabolic dysfunctions and leads to type 2 diabetes, dyslipidemia, hypertension, and cardiovascular diseases. An imbalance between energy intake and expenditure caused by sedentary life style, lack of physical exercise and preference for fat-rich food leads to obesity. As a result, obesity impacts the physiological and psychological well-being of society as a whole from an individual and public health perspective. Therefore, it is important to develop strategies to counteract obesity and metabolic diseases.

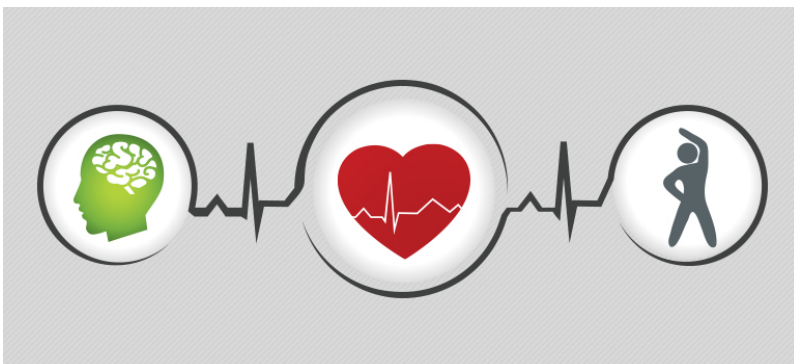
Researchers at the University of Wyoming have created a research plan to determine the effect of dietary CAP, to evaluate the effect of dietary CAP after adding in TRPV1, and to deduce the mechanism by which a high fat diet suppresses TRPV1 expression in adipose tissue. They have also created animal (mice) models available for conducting research in this area.

Applications

- These innovative approaches will explain the role of non-neuronal, adipose tissue specific expression and activity of TRPV1.
- The work will also add new knowledge on the regulation of TRPV1 expression by adipose tissue derived BDNF.

Features & Benefits

- This research will significantly advance our current knowledge on the role of TRPV1 specifically expressed and localized in adipose tissues in the regulation of metabolism and energy expenditure.
- The activation of TRPV1 protein is believed to be beneficial in countering diet-induced obesity.
- This research will contribute to long-term goals for developing new pharmacotherapy to counter obesity.



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