



Natural Hormone Found to Combat Obesity by Affecting Brain

Description

A hormone that can help mice lose weight has given scientists new insights into how the brain manages body weight. Researchers at the University of Oklahoma discovered that FGF21, or fibroblast growth factor 21, works in a key area of the brain that controls hunger and metabolism. This area is also affected by popular weight-loss drugs called GLP-1.

FGF21 mainly acts in the brain, unlike other metabolic signals that target organs like the liver or fat. Scientists are interested in FGF21 because treatments using it might help conditions like MASH, a severe liver disease linked to obesity.

The study, led by Dr. Matthew Potthoff, showed that FGF21 mainly affects the hindbrain, which regulates basic functions such as feeling hungry and managing energy. Potthoff was surprised to find that FGF21 targets this area instead of the hypothalamus, another brain region known for its role in body weight.

This discovery could lead to better treatments for obesity. FGF21 raises the metabolic rate, helping with weight loss, while GLP-1 reduces food intake. Further research is needed to see if FGF21 can also help treat MASH.

Comprehension Questions

Multiple Choice

1. What hormone helps mice lose weight according to the study?

- Option: GLP-1
- Option: FGF21
- Option: Insulin
- Option: Leptin

2. Which area of the brain does FGF21 primarily act on?

- Option: Hypothalamus
- Option: Hindbrain
- Option: Cortex
- Option: Cerebellum



3. What condition is linked to obesity that FGF21 treatments might help?

- Option: Diabetes
- Option: MASH
- Option: Hypertension
- Option: Cardiovascular disease

4. Who led the study on FGF21?

- Option: Dr. John Doe
- Option: Dr. Matthew Potthoff
- Option: Dr. Jane Smith
- Option: Dr. Richard Roe

5. What does GLP-1 primarily do?

- Option: Increases metabolic rate
- Option: Reduces food intake
- Option: Increases hunger
- Option: Targets the liver

6. What is the primary function of the hindbrain as mentioned in the study?

- Option: Regulates emotions
- Option: Controls movement
- Option: Regulates basic functions such as hunger
- Option: Processes sensory information

True-False

7. FGF21 targets the liver primarily.

8. The study on FGF21 was conducted by researchers at the University of California.

9. Further research on FGF21 is needed to determine if it can treat MASH.

10. GLP-1 is a weight-loss drug that increases hunger.

11. Dr. Matthew Potthoff was surprised by the findings regarding FGF21's target area.

12. FGF21 is a type of metabolic signal that acts on various organs.



Gap-Fill

13. FGF21, or fibroblast growth factor 21, works in a key area of the brain that controls hunger and _____ .
14. The study showed that FGF21 mainly affects the hindbrain, which regulates basic functions such as feeling hungry and managing _____ .
15. This discovery could lead to better treatments for _____ .
16. FGF21 raises the _____ rate, helping with weight loss.
17. Researchers found that treatments using FGF21 might help conditions like _____ .
18. Focusing on FGF21 could provide insights into how the brain manages body weight and _____ .

Answer

Multiple Choice: 1. FGF21 2. Hindbrain 3. MASH 4. Dr. Matthew Potthoff 5. Reduces food intake 6. Regulates basic functions such as hunger

True-False: 7. False 8. False 9. True 10. False 11. True 12. False

Gap-Fill: 13. metabolism 14. energy 15. obesity 16. metabolic 17. MASH 18. hunger

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