

Stimulating lipogenesis by FSH in chicken, mice and aging human, and reducing fat by FSH antibodies

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2018/03/14

Outline

- Introduction
- Follicle-stimulating hormone (FSH) increases the fat content and expression of lipid biosynthesis genes in chicken breast muscle and abdomen
- FSH regulates fat accumulation and redistribution in aging and its mechanism
- Blocking FSH induces browning of adipose tissue and reduces body fat
- Conclusion

Abstract

本專討首先講述將濾泡刺激素 (Follicle-stimulating hormone, FSH) 注射進雞體內可使其雞胸內三酸甘油酯和腹部脂肪的含量提升，初步判定 FSH 能刺激動物體內的脂肪生成。第二篇文獻則從醫院資料發現更年期後或老化之人，循環系統內的 FSH 較年輕人更高且含量與 Δ BMI 呈正相關，似乎與老年人容易肥胖有所關聯。從脂肪組織 mRNA 和蛋白的檢測肯定 FSHR (FSH receptor) 除了存在於性腺，亦存在於脂肪細胞上。由於 FSH 作用需要與 FSHR 結合，這是 FSH 能在該處作用的有力證據。從一系列的細胞和動物 (小鼠) 實驗證實 FSH 確實影響動物/人體的脂肪生成與分布，並推測其機制。第三篇文獻研發出可與 FSH 結合使其無法和 FSHR 作用的抗體，進行動物 (小鼠) 實驗後證實該抗體除了防止 FSH 作用外，亦可藉脂肪組織褐化相關蛋白表現的提升，將體內脂肪以熱的形式散出達到減少脂肪的目的。

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