# Article information:

Novel positioning from obesity to cancer: FTO, an m6A RNA demethylase, regulates tumour progression | SpringerLink
<https://link.springer.com/article/10.1007/s00432-018-2796-0>

# Article summary:

1. FTO gene discovery: The FTO gene was first discovered in 1994 as part of a deletion on chromosome 8 in mice, and later found to be associated with obesity in humans through genome-wide association studies.

2. Structure and function of FTO: The FTO protein is an AlkB-like DNA/RNA demethylase that catalyzes the demethylation of 3-methylthymine in single-stranded DNA using Fe(II) and 2-oxoglutarate, and has a high affinity for N6-methyladenosine (m6A) in messenger RNA (mRNA).

3. Link between FTO and cancer: Recent research suggests that FTO may also play a role in the onset and development of certain tumors, such as acute myeloid leukemia (AML), expanding its potential impact beyond obesity.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章主要介绍了FTO基因的发现、结构和功能，以及其在肥胖和癌症等方面的作用。然而，该文章存在以下问题：

1. 偏见来源：该文章对FTO基因在肥胖领域的研究进行了较为详细的介绍，但对其在其他领域的研究仅做了简单提及。这可能是由于作者本身对肥胖问题更感兴趣，或者是由于肥胖问题更受关注和重视。

2. 片面报道：该文章没有提到FTO基因与其他疾病（如心血管疾病、神经系统疾病等）之间的关系，这也是一个值得探讨的话题。

3. 无根据的主张：该文章声称FTO基因可能会导致某些肿瘤（如急性髓性白血病），但并没有提供足够的证据来支持这一观点。此外，该文章还声称FTO蛋白具有高亲和力的m6A mRNA去甲基化活性，但并未提供相关实验数据来证明这一点。

4. 缺失考虑点：该文章没有涉及到FTO基因与环境因素（如饮食、运动等）之间的相互作用，这也是影响肥胖和其他相关疾病发生发展的重要因素之一。

5. 所提出主张缺失证据：尽管已有多项GWAS分析表明FTO基因与肥胖有关，但目前尚未找到确凿证据来证明FTO基因直接导致肥胖。此外，在其他领域中，如癌症等方面，也需要更多实验数据来支持所提出的观点。

6. 宣传内容：该文章似乎试图将FTO基因描述为一个“万能”的遗传标记，并且强调其在肥胖和癌症等方面的作用。然而，在科学界中，并不存在所谓“万能”的遗传标记或药物。

7. 偏袒：该文章似乎更倾向于将FTO基因描述为一个“罪魁祸首”，而忽略了其他可能影响肥胖和其他相关疾病发生发展的因素。此外，在讨论其在癌症中作用时也存在类似问题。

8. 风险意识不足：尽管已有多项GWAS分析表明FTO基因与肥胖有关，但目前尚未找到确凿证据来证明是否应将其作为预测或治疗肥胖的标志物。此外，在讨论其在癌症中作用时也需要更加谨慎地考虑潜在风险。

# Topics for further research:

* FTO gene and other diseases
* Environmental factors and FTO gene
* Lack of evidence for FTO gene's direct role in obesity and cancer
* Overemphasis on FTO gene's importance
* Other factors influencing obesity and cancer
* Caution in using FTO gene as a marker for prediction or treatment

# Report location:

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