

# scite\_

在學術研究和知識探索中，引用（Citation）是構建知識體系和學術誠信的重要環節。scite 是一個引文分析工具，它透過分析學術論文中的引用情況，說明研究人員和讀者理解引用的上下文和意義。以下是結合不同應用場景說明 scite 引文重要性的幾個例子：



## 學術研究

研究人員在撰寫論文時，需要引用先前的研究作為自己研究的基石。scite 可以幫助他們找到相關領域的權威文獻，並經由分析引用的上下文，瞭解這些文獻是如何被其他研究者所使用。

## 文獻探討

在準備文獻探討時，scite 可以展示特定主題或理論的引用趨勢，幫助研究人員快速把握該領域的研究動態和主流觀點。



## 學術評價

scite 可以揭示論文的影响力，透過分析引用的正面或負面評價，幫助學術機構和研究人員評估論文的學術價值。

## 知識發現

scite 的分析可以幫助研究人員發現被低估或未被充分探索的研究領域，促進知識的創新和拓展。



## 教育

在教育領域，scite 可以作為教學工具，幫助學生理解如何正確引用文獻，並經由引用來建構具說服力的論證。

## 出版決策

出版社和期刊編輯可以使用 scite 來評估提交稿件的引用品質，作為決定是否接受論文稿件的一個參考。



## 政策制定

政策制定者可以利用 scite 分析特定政策或研究領域的引用情況，以瞭解其在學術界的影響力和接受度。

## 專利和創新

企業研發部門可以經由 scite 分析技術領域的引用模式，來指導新產品的研發方向或專利策略。



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## 基於引文分類的智慧引文索引

scite.ai 於 2018 年成立，是一家位於美國布魯克林的科技創新公司。scite.ai 致力於協助研究人員發現被驗證過的研究論文及領域內的頂級專家。此外，scite 還為企業決策者驗證研究規劃，分析競爭對手，並精準地識別出戰略性的合作夥伴和關鍵行業意見領袖。scite 是第一個透過對海量學術全文進行資料探勘，運用 AI 分析論文引用性質的智慧型引文索引。借助於 scite，研究人員可以大幅減少文獻篩選與閱讀的時間，並確保研究及研發工作不會因建立在有爭議或遭拒的研究基礎上，而面臨損失。

分析超過 3,450 萬  
篇學術全文

標記、索引、分類超過  
13 億個引用敘述

篩選引文類型，  
快速發掘研究脈絡

智能AI 助手

個人化服務

存取控制  
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引文檢索  
引文敘述檢索

引用文獻查驗

提供即時使用統計資料

## 利用深度學習技術提取引文上下文，並進行分類



支持

Supporting

提及

Mentioning

不支持

Contrasting

智能引文

supporting  
Confidence: 93%

"...pDox@adipocytes showed enhanced cytotoxicity compared with Dox@adipocytes, and this effect was significantly reduced by BMS309403 that inhibits FABP4 (Figure 2J). In accordance with a previous report, 26 Dox inhibited lipid accumulation in adipocytes (Figures 2K, S17A, and S17B). In addition, pDox could be efficiently encapsulated into adipocytes (Figure 2L) and accumulated in the lipid droplets (Figure 2M)...."

Adipocytes as Anticancer Drug Delivery Depot Wen, et al. 2019 Matter Section: RA@adipocytes  
Loaded with Dox Prodrug Promoted Tumor Cell Death

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## 技術創新重新定義引文索引

目前的引文索引平台依然侷限於展示科學論文之間的關聯性，而未能提供如引用動機等深入的背景資訊。由於缺乏此類背景資料，當前的引文分析僅限於統計論文的被引用次數，而無法系統性地探討論文被引用的具體情境和方式。現實中有很多被引量高、品質低的文章。例如，1998 年《柳葉刀》上Wakefield文章 “Ileal-Lymphold-nodular hyperlasia, non-specific colitis, and pervasive development disorder in Children”（已撤稿，被引量超過 3000 次，但大多數是批判性引用）。

scite 透過與全球出版社合作，同時運用 OA 資源，獲得跨學科的學術文章，並對論文全文進行資料探勘，建立 scite 獨有的 Citation Statement 資料庫，並對其進行索引分類，幫助師生、研發人員、編輯等獲取相關學術出版物的資訊，快速瞭解領域內的學術討論資訊，更客觀地評價研究品質。

## 分析學術文獻全文

Article

Adipocytes as Anticancer Drug Delivery Depot

Di Wu<sup>1,2,3</sup>, Jangang Wang<sup>1,2,3</sup>, George Van Der Drift<sup>4,5,6</sup>, Qian Chen<sup>1,2,3</sup>, Jing Zhang<sup>1,2,3</sup>, Guoyun Chen<sup>1,2,3</sup>, Honghui Li<sup>1,2</sup>, Jun-Rui Sato<sup>1,2</sup>, Ming Lu<sup>1,2</sup>, Masao Ohashi<sup>1,2</sup>, Ziqun Wang<sup>1,2</sup>, Peter Abdou<sup>1,2</sup>, Qingyue Hu<sup>1,2,3</sup>, Giuseppe Dotti<sup>1</sup>, Song Li<sup>1,2</sup>, Denis Fouches<sup>1</sup>, and Zhen Gu<sup>1,2,3,4,5,6</sup>

SUMMARY

Tumor-associated adipocytes promote tumor growth by providing energy and causing chronic inflammation. Here, we have exploited the lipid metabolism to engineer adipocytes that serve as a depot to deliver cancer therapeutics at the tumor site. Recombinant adiponectin (RA) as an enhancer fatty acid, and a doxorubicin prodrug linked with a reactive oxygen species (ROS)-sensitive linker, was encapsulated in adipocytes to deliver therapeutics in a tumor-specific, bio-responsive manner. After intratumoral or intraperitoneal administration, RA/prodrug releases the RA and prodrug that is activated by the oxidant ROS-responsive linker, subsequently generating anticancer effects. Furthermore, downregulation of PD-L1 expression is observed in tumor cells, favoring the emergence of CD4<sup>+</sup> and CD8<sup>+</sup> T-cell-mediated immune responses.

INTRODUCTION

Cancer cells are highly dependent on normalizing cells for support in order to grow. Tumor-associated adipocytes (TAAs) are present within the tumor microenvironment (TME) and are recognized to provide a supportive environment for tumor cells. Adipocytes produce and secrete various factors, including adiponectin, leptin, and fatty acids, which are known to promote tumor growth. In the TME, fatty acids in lipid droplets from the adipocytes can also provide energy to tumor cells. However, recent studies have shown that adipocytes can also act as a depot for drug delivery. For example, adipocytes can be engineered to express and secrete drugs, which can then be released into the tumor microenvironment. In this study, we have engineered adipocytes to express and secrete a doxorubicin prodrug, which can be activated by ROS in the tumor microenvironment. This approach allows for the targeted delivery of the prodrug to the tumor site, where it can be released and exert its anticancer effects. Furthermore, we have also engineered adipocytes to express and secrete adiponectin, which can enhance the uptake of the prodrug by tumor cells. This approach allows for the enhanced delivery of the prodrug to the tumor site, where it can be released and exert its anticancer effects. In summary, we have engineered adipocytes to serve as a depot for drug delivery, which can be activated by ROS in the tumor microenvironment. This approach allows for the targeted delivery of the prodrug to the tumor site, where it can be released and exert its anticancer effects. Furthermore, we have also engineered adipocytes to express and secrete adiponectin, which can enhance the uptake of the prodrug by tumor cells. This approach allows for the enhanced delivery of the prodrug to the tumor site, where it can be released and exert its anticancer effects.

Progress and Potential

The tumor microenvironment is composed of normalizing cells that promote tumor growth by providing growth factors and promoting the infiltration of cancer cells into the tumor. In addition, the lipid metabolism of the tumor cells can also promote tumor growth. In this study, we have engineered adipocytes to express and secrete a doxorubicin prodrug, which can be activated by ROS in the tumor microenvironment. This approach allows for the targeted delivery of the prodrug to the tumor site, where it can be released and exert its anticancer effects. Furthermore, we have also engineered adipocytes to express and secrete adiponectin, which can enhance the uptake of the prodrug by tumor cells. This approach allows for the enhanced delivery of the prodrug to the tumor site, where it can be released and exert its anticancer effects. In summary, we have engineered adipocytes to serve as a depot for drug delivery, which can be activated by ROS in the tumor microenvironment. This approach allows for the targeted delivery of the prodrug to the tumor site, where it can be released and exert its anticancer effects.

## 辨識論文中所引用之文獻，並提取引用敘述

“...pDox@adipocytes showed enhanced cytotoxicity compared with Dox@adipocytes, and this effect was significantly reduced by BMS309403 that inhibits FABP4 (IFABP4) (Figure 2J). In accordance with a previous report, **26** Dox inhibited lipid accumulation in adipocytes (Figures 2K, S17A, and S17B). In addition, pDox could be efficiently encapsulated into adipocytes (Figure 2L) and accumulated in the lipid droplets (Figure 2M)....”

Adipocytes as Anticancer Drug Delivery Depot Wen, et al. 2019 *Matter* Section: RA@adipocytes Loaded with Dox Prodrug Promoted Tumor Cell Death

對話中的提問清單

How does the structure of a protein affect its function?

What is a tertiary protein?

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繼續提問

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How does the structure of a protein affect its function?

The structure of a protein is fundamental in determining its function. Proteins consist of amino acids arranged in specific sequences that fold into intricate three-dimensional structures, essential for their proper function (Jones et al., 2023). Protein structure can impact stability, activity, and interactions with other molecules (Rozbesky et al., 2018). Factors like the type of cross-linker, protein concentration, and cross-linker concentration can influence protein structure and function (Rozbesky et al., 2018).

Understanding the effects of mutations on protein structure and function is crucial. Missense mutations, for instance, can impact protein stability and disrupt molecular function (Lugo-Martinez et al., 2016). High-resolution mapping of protein sequence-function relationships has been instrumental in revealing how protein function correlates with its sequence (Fowler et al., 2010). Computational methods have been developed to pinpoint functional residues in protein structures, underscoring the significance of structure-based approaches in predicting protein function (Xin & Radivojac, 2011).

Moreover, the binding of ions to proteins can significantly alter their structure and function (Kuhn et al., 2018). Studies on urinary-protein interactions have shed light on the structural features of these complexes and their functional implications (Lin, 2020). The influence of genetic variation on protein structure and function has also been explored, with tools like SIFT utilized to forecast how substitutions may impact protein function (Bhattacharya et al., 2017).

In summary, a protein's structure is intricately tied to its function. Changes in protein structure induced by mutations, cross-linking, or interactions with other molecules can have substantial effects on protein stability, activity, and overall function. Understanding these relationships is vital for the advancement of fields such as structural biology, bioinformatics, and drug discovery.

What is a tertiary protein?

A tertiary protein structure refers to the three-dimensional arrangement of a protein's secondary structural elements, such as alpha-helices, beta-sheets, and loops (Deka & Sarma, 2012). This level of

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瀏覽和編輯 AI 的檢索策略與參考文獻選擇過程

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The importance of a protein's structure to its function is beyond doubt....>>

Editorial: Structure-function metrology of proteins Alex R. Jones<sup>1</sup>, Isabel Moraes<sup>2</sup>, Milena Quaglia<sup>3</sup> 2023 *Front. Mol. Biosci.* View full text Add to dashboard Cite Open Access Article

...Here, we describe how different factors such as the type of cross-linker, protein concentration, or cross-linker concentration can affect protein structure and function....>>

Section: ■ Results and Discussion Impact of Chemical Cross-Linking on Protein Structure and Function Daniel Rozbesky<sup>1</sup>, Michal Rosdielek<sup>1</sup>, Zdeněk Kukačka<sup>2</sup> et al. 2018 *Anal. Chem.* 44 2 36 0 View full text Add to dashboard Cite Purchase for \$63.35

...They reported that the majority of disease-causing substitutions affect protein stability, whereas a relatively small proportion directly disrupt molecular function....>>

Section: Introduction The Loss and Gain of Functional Amino Acid Residues Is a Common Mechanism Causing Human Inherited Disease Jose Lugo-Martinez<sup>1</sup>, Vikas Pasjaver<sup>2</sup>, Kymberleigh A. Page<sup>3</sup> et al. 2016 *PLoS Comput Biol* 13 0 7 0 View full text Add to dashboard Cite Open Access Article

...Our approach could be applied to many in vitro or in vivo protein assays, providing a general means for understanding how protein function relates to sequence....>>

參考文獻中檢附來自摘要/全文的片段，供讀者審核確認

## scite\_ 智能AI助手

以學術論文內容，解答學術問題

scite 智能 AI 助手運用所分析之學術內容，藉著 ChatGPT 技術，能協助解答學術問題、生成論述，並列出引用文獻。scite 智能 AI 助手可依使用者需求設定搜尋內容來源、並顯示檢索策略，過程透明，確保使用者以負責任的方式使用 AI 協助研究。

assistant by scite\_

How does the structure of a protein affect its function?

Proteins are essential for the proper functioning of living organisms, and their structure plays a crucial role in their function. The structure of a protein is determined by its amino acid sequence, which in turn affects its folding and stability [6]. The interactions between charged amino acids significantly influence the structure and function of proteins [1]. The number of hydrophobic methylenes linking the backbone to the charged functionality of amino acids affects protein structure stability [1]. Protein secondary structures, such as  $\beta$ -sheet structures, are the fundamental three-dimensional building blocks of protein structures [1]. Intrinsically disordered proteins (IDPs) are a family of proteins that fail to form rigid 3-D structures under physiological conditions, either along their entire lengths or only in localized regions [2]. IDPs exist as dynamic ensembles within which atom positions and backbone Ramachandran angles exhibit extreme temporal fluctuations without specific equilibrium values [2].

What do you need help with?