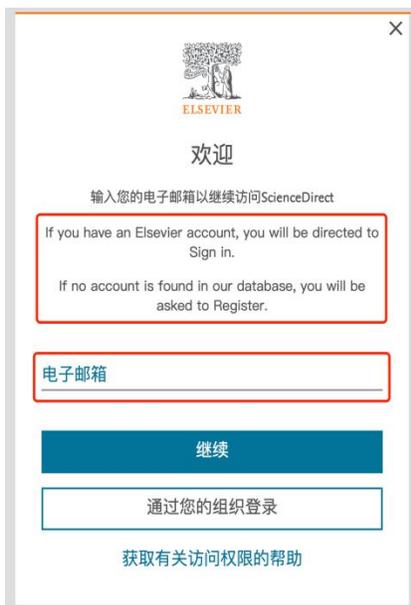
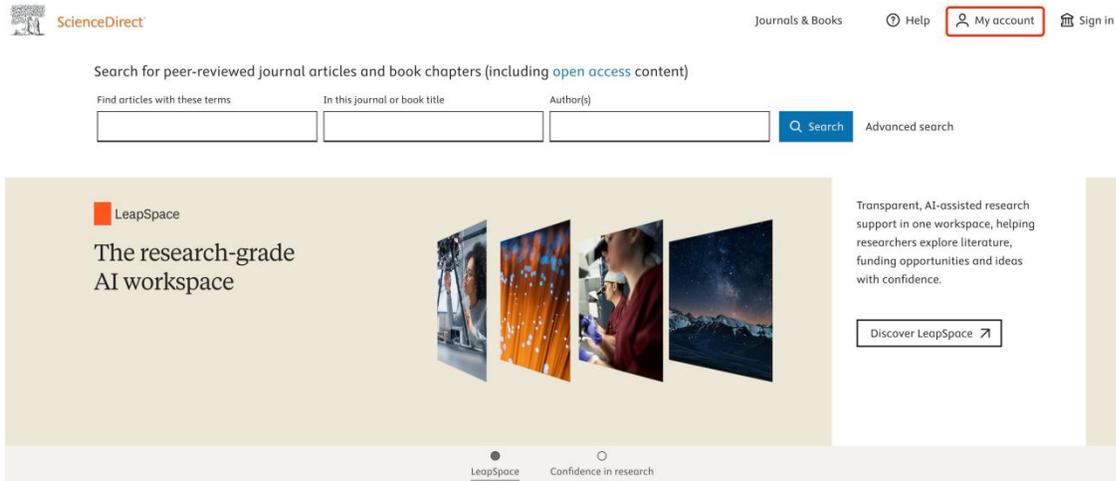


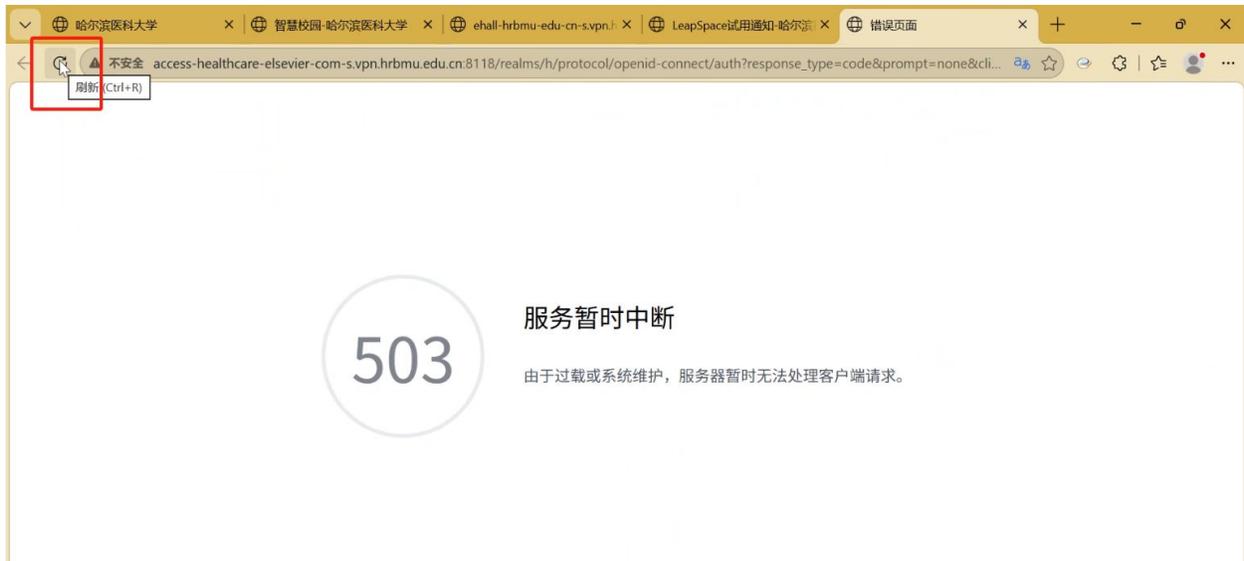
LeapSpace 使用指南

第一步：进入 ScienceDirect 主页 (<https://www.sciencedirect.com/>)，点击“My Account”。



第二步：输入邮箱，点击“继续”。

注意：如果登录遇到任何问题或报错，请尝试点击刷新（浏览器左上角）或重启浏览器后再登录。



A. 如果您之前已经注册过 *Elsevier* 账号：则会自动跳到登陆页面，按指示登陆。如果需要验证链接确认身份，请在邮箱中查看相关链接邮件；如果收件箱中没有，请查找垃圾箱或广告邮件自动存放的位置。



B. 如果您还没有 *Elsevier* 账号：则会自动跳转到注册页面，注册完毕后会自动登陆；

第三步：访问 LeapSpace 主页，点击左下角登录个人 Elsevier 账号。

校园网请直接访问：<https://www.sciencedirect.com/leapspace>,

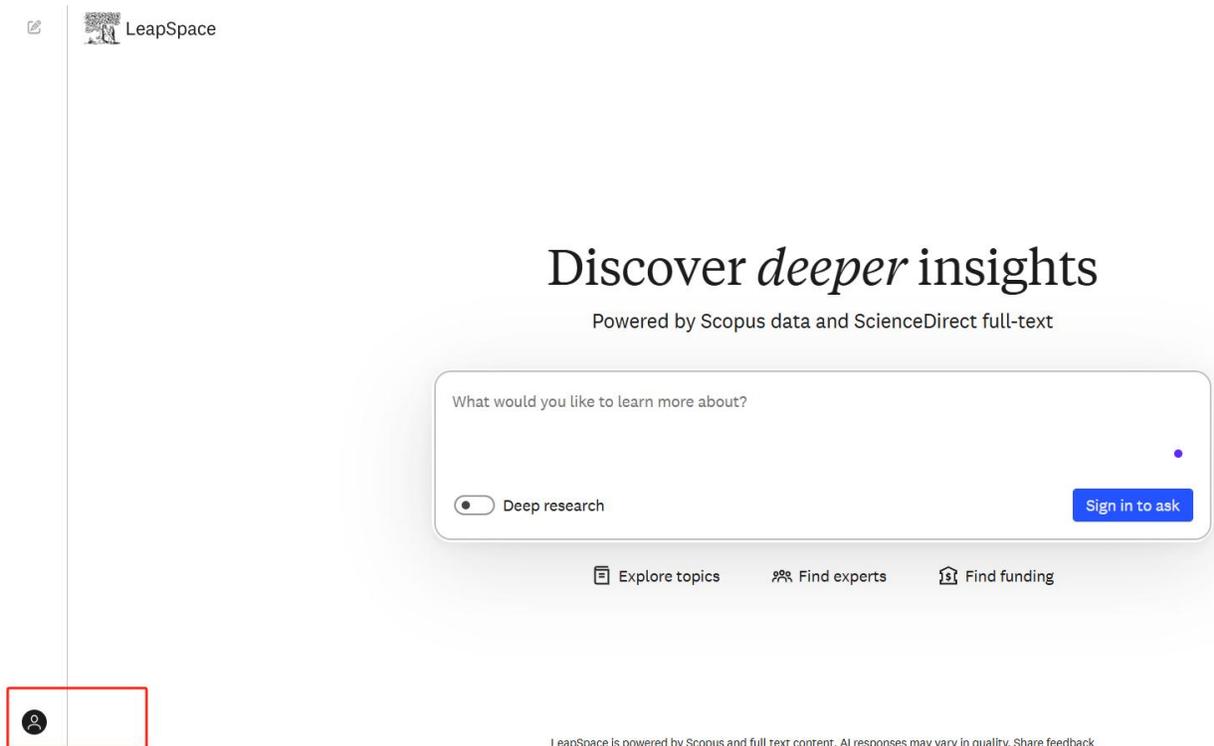
VPN 请收藏地址并访问：

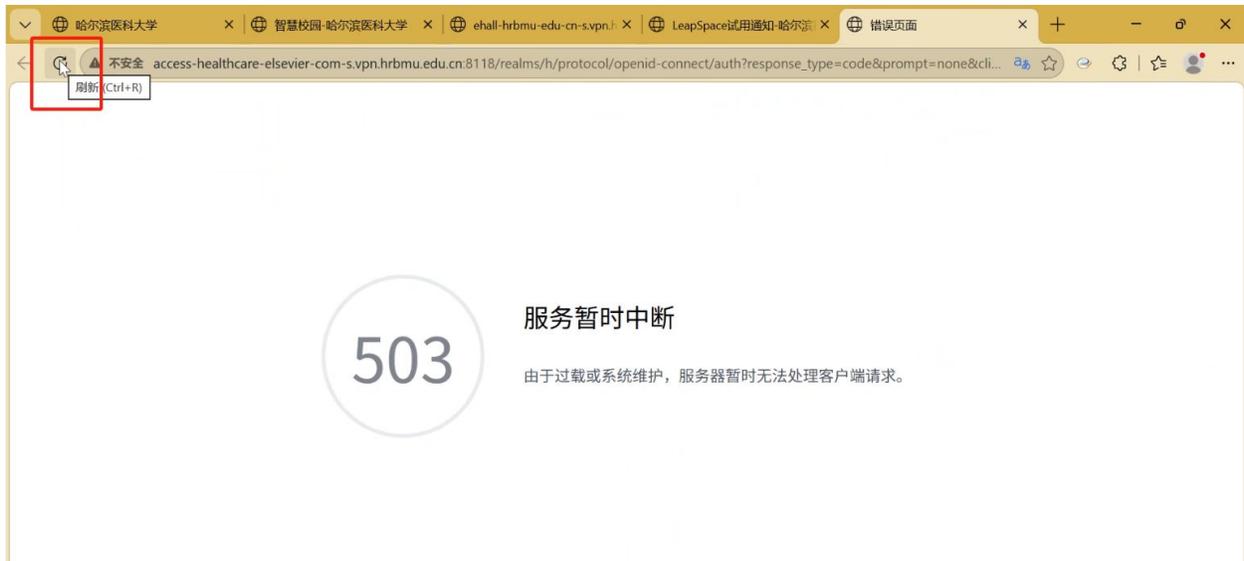
<http://www-sciencedirect-com-s.vpn.hrbmu.edu.cn:8118/leapspace>

(登录 VPN 后，刷新页面或重启浏览器)



特别注意：每次登录账号或注销账号时有可能报错，遇到任何问题或报错（如图），请尝试点击刷新（浏览器左上角）或重启浏览器。





LeapSpace 快速使用指南

二维码

1. 开始检索

Discover *deeper* insights

Powered by Scopus data and ScienceDirect full-text

1

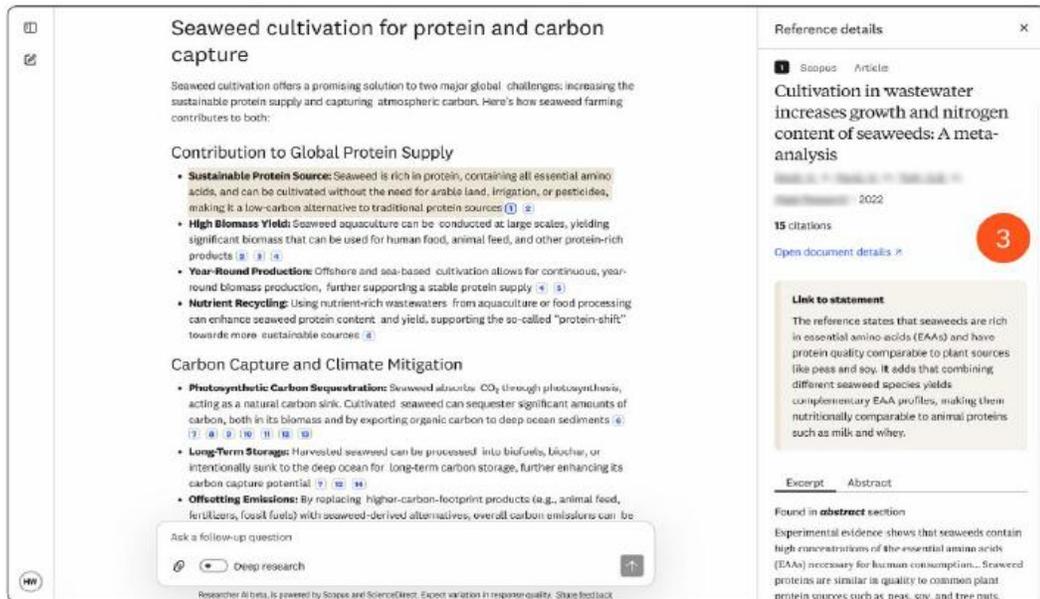
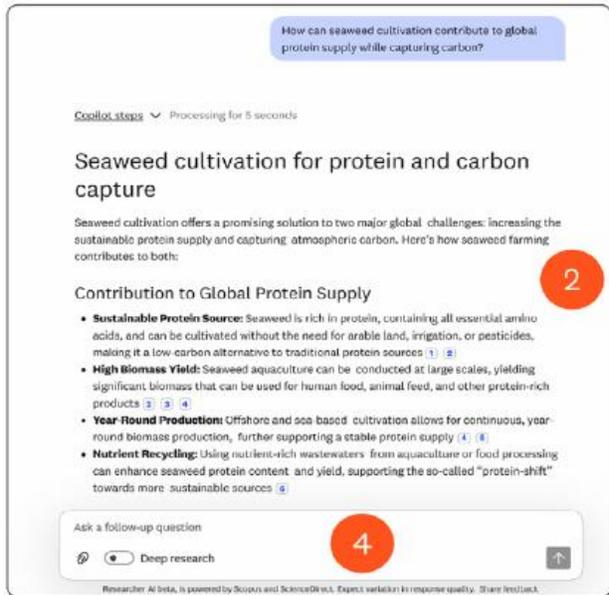
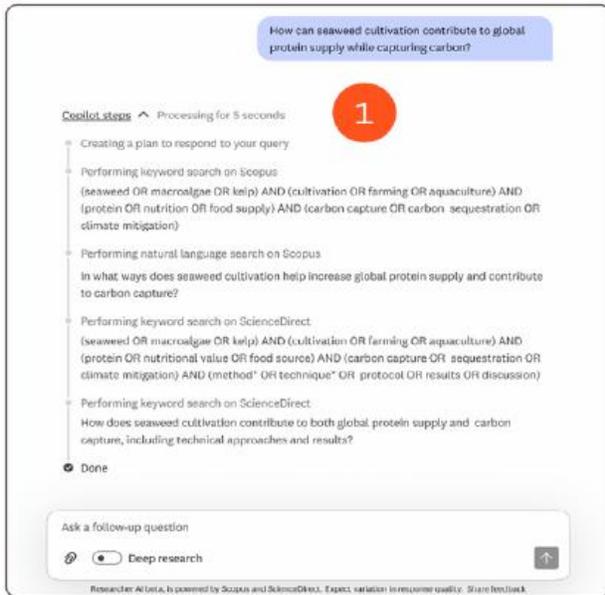
What would you like to learn more about?

Deep Research



构思您的提问：只需用自然的对话语言提出您的问题或描述您的需求。 *LeapSpace* 支持复杂的科研任务，涵盖跨学科领域。

2. 分析检索结果与可信度



- 1) 随时查看回答步骤：LeapSpace 始终清晰展示回答您问题所采取的每一步骤。这种透明机制不仅有助于建立信任，也培养了 AI 时代的一项关键能力——计算思维，即学会如何拆解复杂问题，并逻辑化地逐一解决。
- 2) 快速浏览主题概述：通过结构化的主题概述，您可以迅速把握要点。“内容概要”部分整合了相关文献的核心信息，让您一目了然。
- 3) 利用参考文献“深入研究”：LeapSpace 的每一个回答都建立在经过同行评审、严格筛选的内

容之上——既广泛依托于爱思唯尔旗下出版商中立的 *Scopus* 数据库，也深度汲取了来自爱思唯尔及其他出版商的全文研究成果。参考文献功能让您可以追溯任一论述背后的原始资料，点击任一文献即可展开信息面板，其中不仅包含完整的书目信息，还包含被称为“信任卡”的“关联段落”——清晰展示该论述与引用来源的吻合程度。这一透明机制让您在探索复杂研究时，既能增加可信度，更能助您直抵信息出处，节省宝贵时间。

4) **随时追问：**您可以使用追问功能，就报告中的具体观点更进一步探讨，可调整检索方向以获取新视角，或聚焦某一特定兴趣领域深入挖掘。

3. 获取科研资助信息

How can seaweed cultivation contribute to global protein supply while capturing carbon?

Seaweed cultivation for protein and carbon capture

Seaweed cultivation can contribute to the **global protein supply** while also **capturing carbon** through its dual role as a nutrient-rich food source and a blue carbon ecosystem. Recent research highlights both opportunities and limitations in achieving these goals.

1. Contribution to Global Protein Supply

- High protein content:** Protein levels vary by species and cultivation conditions. For example, *Ulva fenestrata* grown in nutrient-rich herring production waters reached **37.37% dry weight protein**, the highest reported among reviewed species [1].
- Nutritional quality:** Seaweed proteins contain essential amino acids, though digestibility can be low (<60%). Processing innovations, such as fermentation into **seaweed-derived mycoprotein**, can raise protein content (~33%) and digestibility (~100%), with PDCAAS values approaching 0.89 [2].
- Cultivation methods:** Vegetative propagation in *Palmaria palmata* supports sustained growth and bioactive peptide production, enhancing both yield and functional food potential [3].
- Nutrient recycling:** Using nutrient-rich industrial effluents as cultivation media can boost protein biosynthesis while reducing waste [4].

2. Carbon Capture and Sequestration Potential

- Photosynthetic CO₂ uptake:** Seaweeds fix carbon during growth, with life-cycle sequestration for *Laminaria japonica* estimated at **97.73 g C m⁻² yr⁻¹**, most stored in biomass [4].
- Refractory carbon production:** *Porphyra* cultivation increases dissolved organic matter resistant to degradation, enhancing long-term carbon storage in coastal systems [5].
- Optimized cultivation:** Matching strain and depth in *Kappaphycus* spp. can improve biomass yield and carbon uptake efficiency [6].
- Sinking strategies:** Deliberate sinking of harvested seaweed can create additional sequestration, though ecological and governance risks remain [7].

Which funding institutions are most likely to support this research?

Key Funding Institutions

Institution	Research Focus Area	Funding Type / Amount	Geographic Scope	Status
PROTEINUS	Innovative marine biotechnology, protein engineering, and adaptation [8]	Grants: \$20,000,000	Australia	Open
Osaka Climate Change Collaborative	Study on carbon-negative production technologies [9]	Cooperative research up to \$30,000,000	Tokyo + International partners	Open
Coastal processing research	Innovative bioprotein processing, sustainable product development [10]	Research grants	USA, Ireland	Open
AgriCulture Research	Marine, sustainable protein production [11]	Training	USA	Open
Nature-based climate action	Carbon farming, ecosystem resilience [12] (2018-2025)	Research grants: up to \$20,000,000	USA (Global focus)	Open
Blue carbon ecosystems	Marine, sustainable carbon farm [13]	Cooperative research: \$20,000,000	Global + International partners	Open
Bioprocessing	Marine, protein production technologies [14]	Partnership	USA	Open

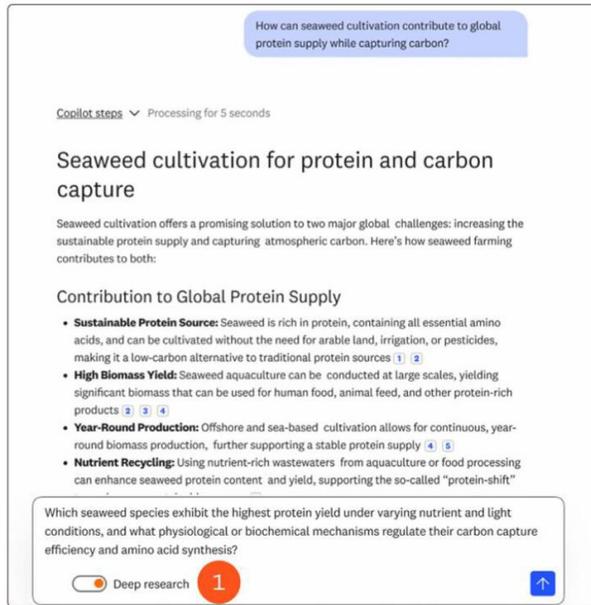
Funding preview

Funding institutional | **Funding opportunity**

Summary | **Eligibility details**

This PhD scholarship will support a broader project funded by the UKRI grants on "Transitioning seaweed-based businesses into nature-based solutions for F&E, B&B, and O&B" in background seaweed farming to widely recognized as a potential key solution for climate change mitigation and adaptation activities. In the Pacific, the seaweed business is entering a business, rapidly growing in cost and regional sales which are usually involved in farming and agriculture activities. The broader project will investigate technical solutions for scaling seaweed production, integrate the environmental potential of seaweed production (the specific objective within the area) including: (1) create value between opportunities for seaweed integration, and synthesis research related to carbon sequestration and sinking up across the Pacific and Asia. The broader project will begin by mapping the existing seaweed supply chain in F&E, B&B, and O&B. Through environmental and business monitoring of production sites, the project will evaluate production and processing interventions for the key species and their value capture.

- 1) 查询科研资助信息：**如需了解某一研究主题的主要资助方，可使用“追问”功能进一步提问。
- 2) 查阅资助来源清单：**您可以查看该研究领域的主要资助方及核心资助来源列表。
- 3) 定位具体资助机会：**您可以深入查看每个资助方所提供的具体资助项目，这或许能成为您获取科研经费的来源。
- 4. 开启深度研究报告**



- 1) **生成深度研究报告：**“深度研究”功能将您的科研探索向前推进一步——它能在几分钟内生成全面且论证严谨的报告。当您提出问题后，深度研究不仅仅是对现有信息进行总结，它还会制定详细的研究计划，在 *LeapSpace* 精选文献库中进行广泛检索，并在获得新洞见时持续优化研究路径。
- 2) **开启深度研究查询：**您可通过点击“追问”功能（图 1）或从 *LeapSpace* 主界面（图 2）启动此功能。无论何种方式，请确保已开启“深度研究”功能开关。

5. 查阅深度研究报告

Deep research report
View as PDF

This deep research report may contain inaccuracies. Please verify the information independently.

Optimizing Protein Yield and Biochemical Mechanisms in Seaweed Species Under Variable Nutrient and Light Conditions 2

Quick Reference

Species	Protein Content (% DW)	Key Mechanisms/Notes	References
Psychiatric disorders	20-25 (extract)	Efficient N assimilation (nitrate/ammonium), high protein recovery with pH-shift extraction	1 2 3
Palmaria palmata	28	High yield with enrichment, effective post-harvest processing	4
Macrocystis pyrifera	22.5	Cooler temps, balanced photoperiod optimize protein and amino acid synthesis	5 6
Hypnea cervicornis	21	Accumulates protein/ phycobilliproteins under balanced high nutrients	7
Porphyra umbilicalis	22.6 (extract)	High growth/protein at moderate temp, high light; pH-	8 9

Ask a follow-up question

Deep research ↑

Researcher AI beta, is powered by Scopus and ScienceDirect. Expect variation in response quality. [Share feedback](#)

Deep Research steps 1 ×

- Analyzing the research topic to identify seaweed species with top protein yield under different nutrients and light levels. Evaluating physiological and biochemical factors governing carbon capture and amino acid production.
- Analyzing the research plan to identify seaweed species with the highest protein yield under different nutrient and light conditions, while examining underlying physiological mechanisms.
- Breaking down the research topic into specific questions and directions, while identifying targeted areas to investigate further.
- Analyzing the research prompt to identify key questions. Evaluating seaweed species for protein yield under different nutrient and light conditions. Formulating a primary query focused on optimizing protein output.
- Starting the initial research process and outlining objectives. Gathering relevant sources and identifying key topics for further analysis. Organizing findings for a coherent overview. Preparing for deeper investigation next steps.
- Analyzing the topic of seaweed protein yield, exploring two levels of depth and two questions per level, to gather initial insights.
- Searching for semantically relevant information about Which seaweed species exhibit the highest protein yield when subjected to varying nutrient

1) **查阅深度研究步骤：**报告将完整展示生成过程中所采取的各项步骤，以确保研究过程透明可信。

2) **分析报告概览：**报告详细包含以下内容：

- 关键研究发现与引用概览
- 对您问题的直接解答
- 研究范围
- 前提假设与研究局限
- 延伸阅读建议
- 引言与综合论述
- 讨论与未来研究方向
- 结论与建议