

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 β -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?



References

Reference #1

Longer charged amino acids favor β -strand formation in hairpin peptides

Jingyuan Chang¹, Jing-Yuan Chang², Nian-Zhi Li³ et al. 2021J Pep Sci

3 | 1 | 7 | 0

Interactions between charged amino acids significantly influence the structure and function of proteins. The encoded charged amino acids Asp, Glu, Arg, and Lys have different number of hydrophobic methylenes linking the backbone to the charged functionality...

[View full text](#) [Add to Dashboard](#)

Reference #2

Understanding protein non-folding

Vladimir N. Uversky¹, A. Keith Dunker² 2010 *Biochimica et Biophysica Acta (BBA) - Proteins and Proteomics*

1017 | 24 | 1112 | 0

This review describes the family of intrinsically disordered proteins, members of which fail to form rigid 3-D structures under physiological conditions, either along their entire lengths or only in localized regions...

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Assistant by scite

Harness the power of Large Language Models (LLMs) backed by scite's unique index of Smart Citations.

Modern problems demand modern solutions

Assistant is **the AI research partner you've been waiting for** that helps you effectively discover and synthesize the vast amount of research information out there **with trust and control built in.**

Learn how to use Assistant, from understanding how it works to effective prompting strategies.

Anatomy of an Assistant Response

Assistant is designed with observability in mind and gives you **insight** and **control** into its responses.

- Understand **how** and **why** it generated an answer.
- Control it through prompting strategies and settings.
- Export information easily to integrate into your workflows.

Table of contents to know where you are

Your prompt

Assistant's response

Your follow-ups

View and edit search strategy and reference selection process


Export references used across all responses

Reference list used to support the claims in this response, with relevant snippets from full-text / abstracts for your review.


This guide will help you...

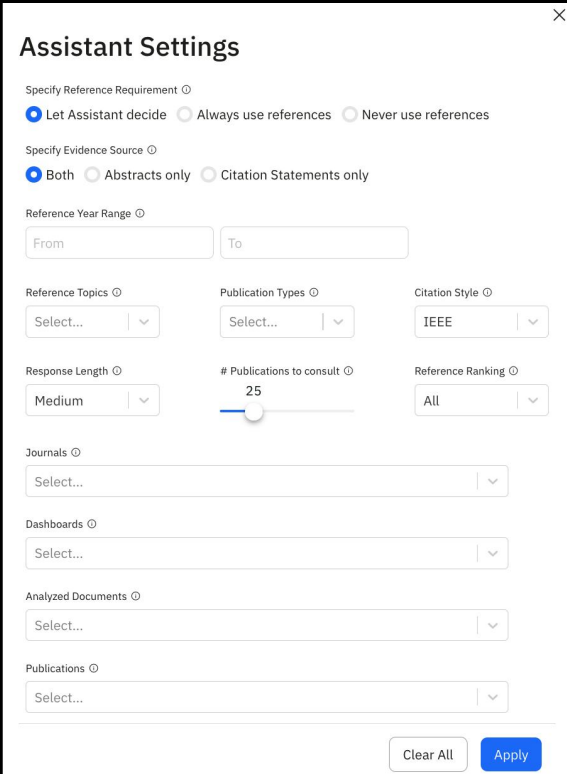
- 1.** Interpret Responses from Assistant
- 2.** Understand how Assistant generates answers
- 3.** Improve your prompting to yield better results
- 4.** Control search strategies used by Assistant
- 5.** Use Assistant to chat with groups of articles you collect, from within scite or other research tools you use

Assistant is backed by our next-generation citation index

- 1/** You prompt
 - 2/** Assistant decides if your prompt needs references
 - 2a/** If you need references, devise a search strategy
 - 3/** Run searches in our database, with your settings
 - 4/** Re-rank publications using our secret sauce model and your settings
 - 5/** Summarize references and relevant snippets / abstracts into an answer, with linked in-text references
 - 6/** Fact check itself
 - 2b/** If no references are needed, directly pass prompt to LLM and perform your task
 - 7/** Return response
- 

Settings let you control Assistant's behavior

The  icon gives you quick access to settings



Assistant Settings

Specify Reference Requirement Let Assistant decide Always use references Never use references

Specify Evidence Source Both Abstracts only Citation Statements only

Reference Year Range From To

Reference Topics Select... Publication Types Select... Citation Style IEEE

Response Length Medium # Publications to consult 25 Reference Ranking All

Journals Select... Dashboards Select... Analyzed Documents Select... Publications Select...

So you can...

- Choose to let Assistant decide whether references are needed, or override its behavior.
- Specify year ranges, topics, publication types, or journal names as filters when searching for papers.
- Tell Assistant to only use papers from a dashboard collection you've built.
- Control the length of Assistant responses.
- Change citation styles so that Assistant uses IEEE, APA, MLA, or something else when writing its response.
- ...and more

Improving Reference Selection

Task

We want to learn about GLP-1 agonists and get an overview of the field, learn where the research is now, and get some sense of where the open questions are, e.g. with side effects

Attempt #1

Your Prompt

GLP-1 agonist

Settings

Default

Assistant Search Strategy

glp 1 agonist diabetes treatment
glp 1 agonist clinical trials
glp 1 agonist mechanism of action

Feedback

- Generic prompt creates generic search strategy, which increases the scope of documents searched, but decreases the likelihood of relevance.
- Lack of specificity creates lack of focus in document selection, information retrieval, and answer generation.

Improving document selection and information retrieval is crucial for improving Assistant answer quality.

Let's try a better prompt and see if it changes the search strategy.

Attempt #2

Your Prompt

Give me an overview of GLP-1 agonists and areas of future research related to adverse effects

Settings

Default

Assistant Search Strategy

glp 1 agonists overview
glp 1 agonists adverse effects future research
glp 1 agonists adverse effects

Feedback

- Better prompt yields a search strategy that's more tailored to things you care about, e.g. adverse effects.
- This improves the relevance of the selected references and the generated answer

Improving Reference Selection

The previous example was an improvement, but what if we wanted to restrict it to only use documents after 2018?

Attempt #3

Your Prompt

Using papers published after 2018, give me an overview of GLP-1 agonists and areas of future research related to adverse effects

Settings

Default, with a year > 2018 filter automatically applied from the prompt

Assistant Search Strategy

glp 1 agonists overview
glp 1 agonists adverse effects future research
glp 1 agonists adverse effects

Feedback

- You can specify the year range within the prompt by saying after or before a year, or between a year range. Assistant will automatically apply the correct setting filter.
- Note that you can also directly apply this in the settings menu without relying on the prompt.

Cool, so you can fine-tune the search process based on attributes like publication year.

Well, what if you notice that it's picking documents from journals you aren't interested in? **You can specify journals explicitly through settings.**

Attempt #4

Your Prompt

Using papers published after 2018, give me an overview of GLP-1 agonists and areas of future research related to adverse effects

Settings

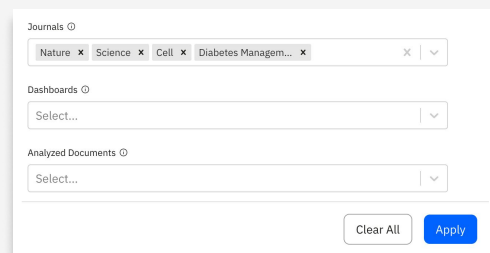
Default, with a year > 2018 filter automatically applied from the prompt

Assistant Search Strategy

glp 1 agonists overview
glp 1 agonists mechanism of action
glp 1 agonists clinical use

Feedback

- We use the same prompt as before, but through the Settings menu, we restrict that search on the set of journals that we're actually interested in!



Edit Assistant Search Strategy

Task

You ran an Assistant prompt and noticed some weird or missing searches, but it's too hard to figure out how to re-prompt to change the search strategy.

Approach

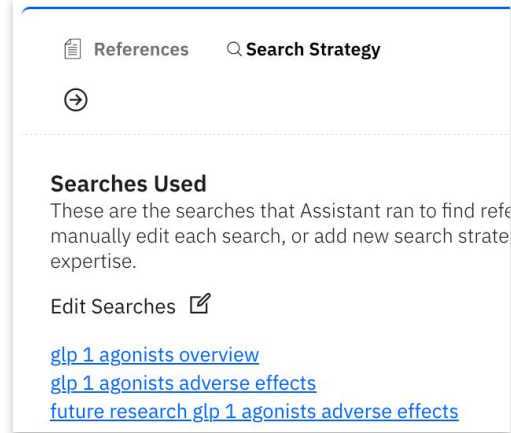
- Go to the “Search Strategy” tab after the response is generated
- Click on “Edit Searches”
- Add a new, or revise an existing search strategy
- Apply your changes and Assistant will re-run your prompt using the new searches.

Bonus Tips

You can inspect the searches used by clicking on them to view the raw results in our classic search interface.

Assistant searches can also support boolean queries. You just have to use uppercase for the operators (“AND”, “OR”, “NOT”)

For more insight into boolean or advanced queries, try the search builder here: <https://scite.ai/search/builder>



Chat With Your Dashboards

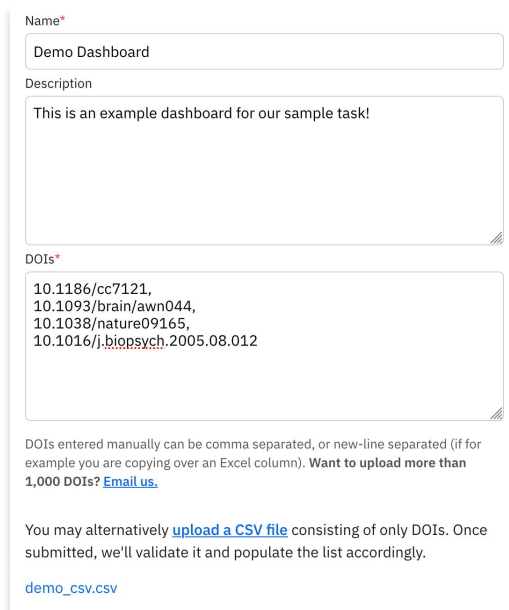
Task

You did a literature review for articles in another tool, and want to ask questions about that set of articles. Maybe see which of them contain information relevant to your questions.

Approach

- Create a custom dashboard on that set of DOIs
- Chat with the dashboard in different ways (we'll go through a few examples!)

1. Go to <https://scite.ai/create-dashboard>
2. Upload or enter the DOIs from any other tool, or your reference manager
3. Within your dashboard, click on the green chat icon on the top right to "Chat with Dashboard"



Name*
Demo Dashboard

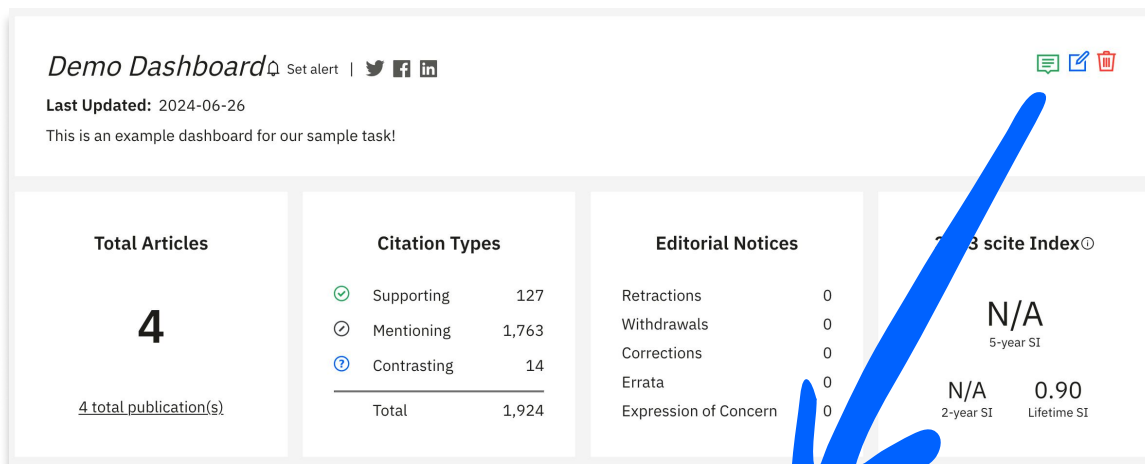
Description
This is an example dashboard for our sample task!

DOIs*
10.1186/cc7121,
10.1093/brain/awn044,
10.1038/nature09165,
10.1016/j.biopsycho.2005.08.012

DOIs entered manually can be comma separated, or new-line separated (if for example you are copying over an Excel column). Want to upload more than 1,000 DOIs? [Email us.](#)

You may alternatively [upload a CSV file](#) consisting of only DOIs. Once submitted, we'll validate it and populate the list accordingly.

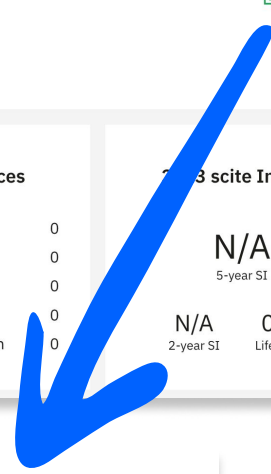
[demo_csv.csv](#)



Demo Dashboard Set alert |

Last Updated: 2024-06-26
This is an example dashboard for our sample task!

| Total Articles | Citation Types | Editorial Notices | 3 scite Index |
|---|---|--|--|
| 4 <small>4 total publication(s)</small> | <ul style="list-style-type: none">Supporting 127Mentioning 1,763Contrasting 14 <hr/> Total 1,924 | <ul style="list-style-type: none">Retractions 0Withdrawals 0Corrections 0Errata 0Expression of Concern 0 | N/A <small>5-year SI</small> N/A 0.90 <small>2-year SI Lifetime SI</small> |



Your AI Research Partner

scite Assistant gives you answers with insight and control into its thought process.



Ask a question... (type '/' for menu)

[Settings](#) [Sources](#)

Using: [Dashboard: Demo Dashboard](#)

Chat With Your Dashboards

Alright, we made a dashboard and figured out how to make sure Assistant uses it. You can also accomplish this by opening the Settings menu and picking your dashboard.

Task #1

Write an introduction using only the articles from our dashboard

Your Prompt

Write an introduction to a research paper summarizing information in these articles

Settings

Default, with dashboard filter applied on Demo Dashboard

Assistant Search Strategy

*

Feedback

- Note that the search strategy uses a wildcard, telling Assistant to search everything within the set of articles from the dashboard you provided.
- The answer attempts to complete your task based on that set of DOIs, where the relevant information is available.
- Assistant will, under these settings, only use articles from that dashboard which are relevant for your task.

↳ Write an introduction to a research paper summarizing information in these articles

🔍 The regulation of gene expression is a complex process influenced by various factors such as DNA methylation, neural responses, and hemodynamic support in critical conditions. [Maunakea et al. \(2010\)](#) explored the conserved role of intragenic DNA methylation in controlling alternative promoters, shedding light on how this epigenetic mechanism impacts gene transcription. This study emphasized the significance of tissue-specific DNA methylation in modulating intragenic promoter activity, highlighting its relevance in both in vitro and in vivo settings.

Furthermore, [Lesser et al. \(2008\)](#) delved into the dynamic variations in cortical responses to stimulation, revealing the rapid changes that can occur in intact cortex within short time frames. Their findings underscored the importance of local brain states and functional brain architecture in shaping the distribution of cortical responses, providing insights into the adaptability and plasticity of neural pathways in response to stimuli.

In a clinical context, [Morelli et al. \(2008\)](#) conducted a randomized controlled trial to compare the effects of phenylephrine and norepinephrine as initial hemodynamic support in patients with septic shock. This study aimed to elucidate the systemic and regional hemodynamic impacts of these vasoconstrictor agents, contributing valuable information to the management of critically ill patients experiencing septic shock.

Moreover, [Phan et al. \(2006\)](#) investigated the association between amygdala hyperactivity in response to negative facial expressions and the severity of social anxiety in individuals with generalized social phobia. By linking amygdala activation to social anxiety levels, this study provided insights into the neural correlates of emotional processing and their implications for anxiety disorders.

These studies collectively highlight the intricate interplay between epigenetic regulation, neural responses, and hemodynamic support in influencing gene expression, neural plasticity, and physiological responses in both health and disease states.

Not what you expected?

↳ Ask a question... (type '/' for menu)

Using: [Dashboard: Demo Dashboard](#)

References Search Strategy

🔍 "...An in-depth investigation of the human SHANK3 locus17,18 and its mouse homologue demonstrated that this tissue-specific DNA methylation regulates intragenic promoter activity in vitro and in vivo..." >>

Section: Abstract

Conserved role of intragenic DNA methylation in regulating alternative promoters

[Atika K. Maunakea¹](#), [Raman P. Nagarajan²](#), [Mikhail Bilenky³](#) et al. 2010 *Nature*

1,506 | 4 | 93 | 1,309 | 5

Add to dashboard Cite Purchase for \$66.90 Rent for \$19.00

🔍 "...These results show that widespread dynamic changes in cortical responses can occur in intact cortex within short periods of time, and that the distribution of these responses depends on local brain states and functional brain architecture at the time of stimulation..." >>

Section: Abstract

Short-term variations in response distribution to cortical stimulation

[Ronald P. Lesser¹](#), [Hyang Woon Lee²](#), [W. R. Webber³](#) et al. 2008 *Brain*

58 | 4 | 37 | 2

Add to dashboard Cite Open Access

🔍 "...The aim of the present study was, therefore, to investigate the effects of a firstline therapy with either phenylephrine or norepinephrine on systemic and regional hemodynamics in patients with septic shock..." >>

Section: Abstract

Phenylephrine versus norepinephrine for initial hemodynamic support of patients with septic shock: a randomized, controlled trial

[Andrea Morelli¹](#), [Christian Ertmer²](#), [Sebastian Rehberg³](#) et al. 2008 *Critical Care*

124 | 1 | 90 | 1

Chat With Your Dashboards

Okay, so we know how to chat with a dashboard. What if we want to ensure Assistant uses each article, and get a tabular view to see if each article answers a specific question?

Task #2

List the key findings of each of the articles in our dashboard. Do it for each one.

Attempt #3

Your Prompt

What is the key finding of each of these studies?

Settings

Default, with dashboard filter applied on Demo Dashboard

The setting for “Structured Responses” is turned on.

Assistant Search Strategy

*

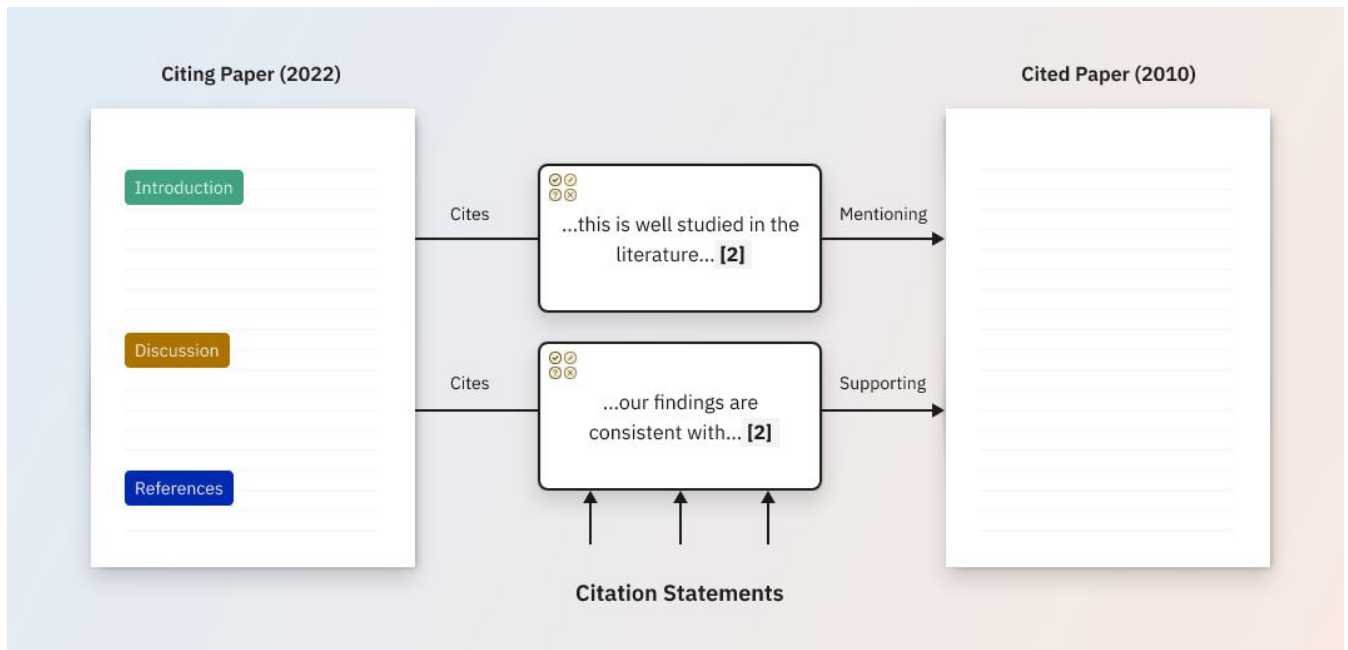
Feedback

- We search each article in the dashboard for information on key findings.
- Because “Structured Responses” is enabled, it generates a tabular view where Assistant is forced to answer your question for each article in your dashboard.
- You can export that table.
- An even better, more intuitive table workflow is coming :)!

↳ What is the key finding of each of these studies? ✎

| # ↑ | Response | Reference |
|-----|---|--|
| 1 | According to (Lesser et al., 2008), the key finding of their study is that short-term variations in response distribution to cortical stimulation can occur in intact cortex, influenced by local brain states and functional brain architecture. | Short-term variations in response distribution to cortical stimulation 2008 Brain 📄 58 🟢 4 🕒 37 🗨️ 2 |
| 2 | According to (Maunakea et al., 2010), the key finding of their study is the conserved role of intragenic DNA methylation in regulating alternative promoters, as evidenced by the investigation of the human SHANK3 locus and its mouse homologue, which showed that tissue-specific DNA methylation controls intragenic promoter activity both in vitro and in vivo. | Conserved role of intragenic DNA methylation in regulating alternative promoters 2010 Nature 📄 1,506 🟢 93 🕒 1,309 🗨️ 5 |
| 3 | The key finding of 's study is that in septic shock patients, replacing norepinephrine with phenylephrine for hemodynamic support leads to more significant hepatosplanchnic vasoconstriction compared to norepinephrine (Morelli et al., 2008). | Phenylephrine versus norepinephrine for initial hemodynamic support of patients with septic shock: a randomized, controlled trial 2008 Critical Care 📄 124 🟢 1 🕒 90 🗨️ 1 |
| 4 | found a significant association between amygdala hyperactivity in response to harsh faces and the severity of social anxiety in individuals with generalized social phobia. This key finding highlights the role of amygdala activation in processing negative social stimuli and its impact on the manifestation of social anxiety symptoms. Phan et al. (2006) | Association between Amygdala Hyperactivity to Harsh Faces and Severity of Social Anxiety in Generalized Social Phobia 2006 Biological Psychiatry 📄 463 🟢 29 🕒 326 🗨️ 6 |

Our Smart Citations power Assistant, and more.



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Our pipeline indexes and classifies sentences where citations are made from the full-text.

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