

SCIENTIFIC ABSTRACT TEMPLATE & CHECKLIST GUIDE

Helping You Summarize Your Research
With Clarity and Impact



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Purpose of a Scientific Abstract

A scientific abstract is a concise summary of your research designed to quickly inform readers of the purpose, methods, results, and conclusions of your work. It's often the first, and sometimes the only, part of your paper or poster that audiences read. A strong abstract should:

- Capture attention in less than 300 words.
- Clearly express your key findings and significance.
- Motivate readers to learn more or collaborate.





Before You Begin: Preparation Checklist

✓ Define Your Objective

- What is the key message or discovery?
- What audience are you addressing (academic, industry, or public)?

✓ Know The Format Requirements

- Check word limit, structure (structured vs. unstructured), and required headings.
- Confirm submission platform formatting (conference, journal, or repository).

✓ Gather Key Elements

- Final results and data points (avoid using “in progress” or “will be analyzed”).
- Author list and affiliations.
- Keywords that increase searchability and indexing.

✓ Clarity and Ethics

- Avoid abbreviations unless widely recognized.
- Do not include unpublished or confidential data without authorization.

Scientific Abstract Structure

1. Title

Clear, concise, and descriptive (avoid jargon). Include the primary concept or finding.

2. Authors and Affiliations

List all contributing researchers, institutions, and funding acknowledgments.

3. Background / Introduction

Briefly explain why this research was conducted. Identify the scientific or societal problem being addressed.

4. Objective / Purpose

State the main goal or hypothesis of your study.

5. Methods

Summarize your approach, experiment, or analytical model. Include relevant materials, instruments, or data sources.

6. Results

Present the most important findings using specific data points. Avoid tables or figures—keep it textual.

7. Conclusion

Summarize the key takeaway and implications of the study. Suggest next steps or potential applications.

8. Keywords

Select relevant, searchable terms that reflect your study's core themes.

Writing Tips for a Compelling Abstract

- Start with your result, not your method — readers want your discovery first.
- Write in active voice for clarity and engagement.
- Remove filler — every word should earn its place.
- Avoid undefined acronyms or technical overload.
- Revise last — write your abstract after the full paper is complete.

Example Abstract Template

Title: Zero-Gravity Bioreactors Enable Enhanced Plant-Derived Growth Factor Expression for Dermatological Use

Background: Current terrestrial plant cultures have limited yield of bioactive growth factors due to gravity constraints.

Objective: To assess whether zero-gravity bioreactor systems increase production of plant-derived growth factors for skin regeneration.

Methods: Botanical cell lines were cultured under microgravity-simulated conditions for 14 days. Expression of epidermal growth factor analogs was quantified via enzyme-linked immunosorbent assay and compared to ground controls.

Results: Microgravity conditions yielded a 2.8× increase in total growth factor concentration ($p < 0.01$).

Conclusion: Zero-gravity bioreactors significantly enhance plant growth factor biosynthesis, demonstrating potential for scalable skincare applications.

Keywords: Zero Gravity, Plant Biotechnology, Growth Factors, Dermatology, Space Biology

Final Pre-Submission Checklist

Step	Task	Completed
1	Title is clear, concise, and relevant	☐
2	Author names and affiliations complete	☐
3	Abstract length within limits (150-300 words)	☐
4	Contains Background, Objective, Methods, Results, Conclusion	☐
5	No figures, tables, or references included	☐
6	Uses past tense for completed work	☐
7	Proofread for grammar and clarity	☐
8	Keywords chosen for searchability	☐
9	Approved by co-authors and institution	☐
10	STARS Science formatting applied (logo, footer, disclaimer)	☐
11	Submitted to conference, journal, or STAR Sciences Respository	☐

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In science, brevity is brilliance — make every word count.



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