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FRONT MATTER

Title
- Full titles can be a maximum of 135 characters.
- Short title can be a maximum of 50 characters.

Authors

Example: Firstname M. Lastname,[1]* Firstname I. Lastname,[1,2] Firstname I. Lastname[3]†

Authors should be listed in order of contribution to the paper, by first name, then middle initial (if any), followed by last name and separated by commas. The author list should be one single paragraph with no line breaks. Failure to spell out first names will introduce errors when the paper is deposited in PubMed. The author list should match information cataloged in the author paperwork in CTS.

Affiliations

Use superscript numbers (1, 2, 3) to designate author affiliations.
- Each affiliation should be preceded by superscript numbers corresponding to the author list, and each affiliation should end with a period.
- Each affiliation should be a separate paragraph.
- You can include group authors, but please include a list of the actual authors (the group members) in the Supplementary Materials.

Identify the corresponding author with an asterisk (*) and be sure to include that person's e-mail address.

Use symbols (in this order: †, ‡, §, ||, ¶, #, ††, ‡‡, etc.) for author notes such as present addresses, "These authors contributed equally to this work" notations, and similar information.

Abstract

The abstract should be a single paragraph (**less than 160 words**) written in plain language that a general reader can understand. Do not include citations. The abstract should provide:
- An opening sentence that states the question/problem addressed by the research
- Enough background content to give context to the study
- A brief statement of primary results
- A short concluding sentence

Teaser

This one-sentence summary (<130 characters with period) provides a pithy snapshot of your research for non-specialist readers and should complement rather than repeat the title. Do not use "We" to start the teaser.

MAIN TEXT

The manuscript should be a maximum of 15,000 words.

Introduction

The manuscript should start with a brief introduction that lays out the problem addressed by the research and describes the paper's importance. The scientific question being

87 investigated should be described in detail. The introduction should provide sufficient
88 background information to make the article understandable to readers in other disciplines,
89 and provide enough context to ensure that the implications of the experimental findings
90 are clear. USE ACTIVE VOICE: "The team conducted the experiment." NOT "The
91 experiment was conducted by the team."

92

Results

94 The results should describe the experiments performed and the findings observed. The
95 results section should be divided into subsections to delineate different experimental
96 themes. Subheadings should be descriptive phrases. All data must be shown either in the
97 main text or in the Supplementary Materials.

- All data should be presented in the Results. No data should be presented for the first time in the Discussion. Data (such as from Western blots) should be appropriately quantified.
- Subheadings should be descriptive phrases. They should be brief, ideally less than 10 words. Subheadings should not end in a period. Your paper may have as many subheadings as are necessary.
- Figures and Tables must be called out in numerical order. For example, the first mention of any panel of Fig. 3 cannot precede the first mention of all panels of Fig. 2.
- Display equations (set on their own line) can be included. Do not use the native Word 2007, 2008, 2010, or 2011 equation editor. This can produce inaccurate MathML, the online markup language we use, which may result in display errors. Instead, use the legacy equation editor in Word (Insert menu; select insert object; select word equation) or use MathType (recommended). If you enter equations in simple LaTeX, check that they convert accurately (Word 2007 and higher can convert simple LaTeX equations). Display equations should be numbered at the right — (1), (2), etc.
- The same guidelines apply to mathematical expressions within a sentence of text; however, MathType (or the equivalent) should be used within text only when the desired result cannot be achieved using ordinary Word characters. Reserve MathType for when its use is unavoidable—for example, characters with overbars or carets, with stacked superscripts and subscripts, or within square root symbols.

Discussion

123 Include a Discussion that summarizes (but does not merely repeat) your conclusions and
124 elaborates on their implications. There should be a paragraph outlining the limitations of
125 your results and interpretation, as well as a discussion of the steps that need to be taken for
126 the findings to be applied. Please avoid claims of priority. Do not include a "Conclusion"
127 heading.

Materials and Methods

130 The Materials and Methods section should provide sufficient information to allow
131 replication of the results. Begin with a section titled Experimental Design describing the
132 objectives and design of the study as well as prespecified components.

133 In addition, include a section titled Statistical Analysis at the end that fully describes the
134 statistical methods with enough detail to enable a knowledgeable reader with access to the
135 original data to verify the results. The values for N, P, and the specific statistical test
136 performed for each experiment should be included in the appropriate figure legend or
137 main text.

138 All descriptions of materials and methods should be included after the Discussion. This
139 section should be broken up by short subheadings. Under exceptional circumstances, when
140 a particularly lengthy description is required, a portion of the Materials and Methods can
141 be included in the Supplementary Materials.

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References
145 There is only one reference list for all sources cited in the main text, figure and table legends,
146 and Supplementary Materials. The suggested upper limit for research articles is 80 and for
147 review articles 150. References cited only in the Supplementary Materials should be added at
148 the end of the main paper reference list. They do not count toward the 80 citations limit. Do
149 not include a second reference list in the Supplementary Materials section. **Exception:** If a set
150 of references is used as a dataset compiled to do the research (such cases usually involve
151 extensive reference lists) include these references in an Excel file and list the datafile labeled
152 as such in the Supplementary Materials.

154 Each reference should have a separate number and should be on a separate line ending in a
155 period. References should be numbered in order of citation in the text: first in the text, then
156 through figure and table captions and text boxes, and finally SM-only references. If using software
157 to number references, please ensure that they follow the citation order listed here. If they do not,
158 renumbering will be required and this could delay the paper.

160 See the Information for Authors for details of correct reference style, with examples.

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163 Please do not include any extraneous language such as explanatory notes as part of a reference
164 to a given source. No endnotes or footnotes are permitted; if information is important enough
165 to include, add it to the main text.   Note that accepted papers cannot include any unpublished
166 or "in-press" references. They must convert to published references or will be removed and
167 the list will have to be renumbered.

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171 Acknowledgments follow the references and notes section but are not numbered. They
172 should include the following information in the order listed below. Each section must be a
173 **separate paragraph** and the heading in bold. Please use the subhead and boldface layout
174 as shown below.).

176 If applicable, begin the section with text that acknowledges non-author contributions.
177 (Note this section does not have a general heading).

179 **Funding:** Include all funding sources, including grant numbers, complete funding agency
180 names, and recipient's initials. Each funding source should be listed in a separate
181 paragraph such as:

Author contributions: Each author's contribution(s) to the paper should be listed (we suggest following the CRediT model with each CRediT role given its own line. No punctuation in the initials.

> Examples:
> Conceptualization: SBB, DLA, MPW
> Methodology: HP, FTGS, CW, JRK
> Investigation: SBB, DLA, MPW
> Visualization: SFB
> Supervision: SJE, JLS, EH
> Writing—original draft: SBB, DLA
> Writing—review & editing: SBB, DLA, PRB, EH

Competing interests: Include any financial interests of the authors that could be perceived as being a conflict of interest (including but not limited to financial holdings, professional affiliations, advisory positions, and board memberships). Also include any awarded or filed patents pertaining to the results presented in the paper. If the entire group of authors has no competing interests, the authors should declare this (e.g., "Authors declare that they have no competing interests.") In cases where some authors have competing interests and others do not, note the competing interests and then use the following, "All other authors declare they have no competing interests."

Data and materials availability: All data, code, and materials used in the analyses must be available in some form to any researcher for purposes of reproducing or extending the analyses. Include a note explaining any restrictions on materials, such as materials transfer agreements (MTAs). Include accession numbers to any data relevant to the paper and deposited in a public database; include a brief description of the dataset or model with the number. The DMA statement should include the following: "All data are available in the main text or the supplementary materials."

Figures and Tables

You may include up to **a total of 10 figures and/or tables (combined)** throughout the manuscript. You should embed your figures within the Word file. A detailed description for figure preparation can be found on the topical style sheet for your field. For revised papers, include the captions at the end of the document and upload figures to CTS.

Fig. 1. Short title of the first figure. The figure legend should begin with a title (an overall description of the figure, in boldface) followed by additional text. Each legend should be placed immediately after its corresponding figure.

Fig. 2. Short title of the second figure. Indicate figure parts with bold capital letters: (**A**), (**B**), etc.

Table 1. Short title of the first table. Start table legends with a title (short description of the table). Format tables using the Word Table commands and structures. Do not

232 use spaces, tabs or hard returns to create tables. Every vertical column should have
233 a heading, followed by a unit of measure (if any) in parentheses. Units should not
234 change within a column. Centered headings of the body of the table can be used to
235 break the entries into groups. Footnotes should contain information relevant to
236 specific cells of the table; use the following symbols in order, as needed:*, †, ‡, §,
237 ||, ¶, #, **, ††, etc. (Don't use footnotes in column heads; include any such details
238 in sentence form after the table itself.)
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240

Supplementary Materials

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