

nature

Manuscript formatting

This guide describes how to prepare contributions for submission. We recommend that you also read the full version on www.nature.com/nature/authors/gta.

Before submission, we recommend authors familiarize themselves with *Nature's* style and content by reading the journal (in print or online at www.nature.com/nature), particularly if they have not submitted papers recently.

FORMATS FOR NATURE CONTRIBUTIONS

Nature's main formats for original research are Articles and Letters.

Articles

Articles are original reports whose conclusions represent a substantial advance in the understanding of an important problem and have immediate, far-reaching implications. As a guideline they allow up to 50 references.

Articles have a separate summary of up to 150 words, which has no references, and does not contain numbers, abbreviations, acronyms or measurements unless essential. It contains 2–3 sentences of basic-level introduction to the field; a brief account of the background and rationale of the work; a statement of the main conclusions (introduced by the phrase 'Here we show' or its equivalent); and 2–3 sentences putting the main findings into general context so it is clear how the results described have moved the field forwards.

Articles are typically 3,000 words of text (not including Methods, summary or other sections), beginning with up to 500 words of referenced text expanding on the background to the work, before proceeding to a concise, focused account of the findings, ending with one or two short paragraphs of discussion.

The text may contain subheadings (less than six in total) of less than 40 characters (including spaces) each. Articles have 5 or 6 display items (figures or tables).

Letters

Letters are short reports of original research focused on an outstanding finding whose importance means that it will be of interest to scientists in other fields. As a guideline they allow up to 30 references.

They begin with a fully referenced paragraph, of about 200 words, (certainly no more than 300 words) aimed at readers in other disciplines. This starts with a 2–3 sentence basic introduction to the field; followed by a one-sentence statement of the main conclusions starting 'Here we show' or equivalent phrase; and 2–3 sentences putting the main findings into general context. See the information sheet '[How to construct a *Nature* summary paragraph](#)' for an annotated example.

The rest of the text is typically about 1,500 words long (not including Methods, summary paragraph or other sections). Letters have 3 or 4 small display items.

Brief Communications Arising and corrections

Brief Communications Arising are exceptionally interesting or important comments and clarifications on original research papers or other peer-reviewed material published in *Nature*. They are published online but not in print. Corrections to peer-reviewed material are published in *Nature*. Please see www.nature.com/nature/authors/gta/commsarising.html.

Other contributions to *Nature*

Nature also publishes News and Comment, Correspondence, Obituaries, Opinion, Book & Arts, Futures, News and Views, Reviews and Perspectives, Insights, Outlooks, Analyses, Hypotheses, Careers and Technology features. Please see www.nature.com/nature/authors/gta/others.html.

THE EDITORIAL PROCESS

Please see www.nature.com/nature/authors/get_published.

PRESUBMISSION ENQUIRIES

Presubmission enquiries are an author service and are not required by the journal. They must take the form of a paragraph stating the interest

to a broad readership, a fully referenced summary in the style for Letters, and a reference list. Presubmission enquiries are not available for Brief Communications Arising.

READABILITY

Contributions should be clear and simple so that they are accessible to readers in other disciplines and to readers for whom English is not their first language.

For **gene, protein and other specialized names** authors can use their preferred terminology so long as it is in current use by the community. They must give all known names for the entity at first use in the paper and database accession numbers and/or unique identifier (e.g. RefSeq number) in the end notes.

Nature prefers authors to use internationally agreed nomenclature; details are provided in our author policies (www.nature.com/authors/editorial_policies/availability.html). Please also note the special circumstances about online publication of formal descriptions of new species (www.nature.com/authors/editorial_policies/confidentiality.html).

FORMAT OF ARTICLES AND LETTERS.

Contributions should be double-spaced and written in English (spellings as in the Oxford English Dictionary).

Contributions should be organized in the sequence: title, text, methods, references, end notes, tables, figure legends. In order to facilitate the review process, for initial submissions we encourage authors to incorporate the manuscript text and figures together in a single file (Microsoft Word or PDF, up to 30 MB in size). The figures may be inserted within the text at the appropriate positions or grouped at the end, and each figure legend should be presented together with its figure. Also, please include line numbers within the text.

Titles

Titles should not exceed 90 characters (including spaces) for Letters, or 75 characters (including spaces) for Articles. Titles should not include numbers, acronyms, abbreviations or punctuation. They should include sufficient detail for indexing purposes but be general enough for readers outside the field to appreciate what the paper is about.

Text

Articles should fill no more than 5 pages, and Letters no more than 4 pages, of *Nature*. An uninterrupted page of text contains about 1,300 words. Authors should state in a cover letter to the editor their rough estimate of the length of their paper in terms of number of pages of *Nature*, after reducing display items to the smallest acceptable size (see Figures, below).

Nature prefers authors to be listed without details of relative status, but instead to specify the contribution made by co-authors in the end notes of the paper.

Present addresses appear after the author address list (below the footnote rule at the bottom of the first page) and may be identified by a dagger symbol.

Methods

The author should include the 'Methods' section at the end of the text, following the figure legends. This Methods section will appear in the online PDF and in the full-text (HTML) version of the paper online, but will not appear in the printed issue. The Methods section should be written as concisely as possible but should contain all elements necessary to allow interpretation and replication of the results. As a guideline, Methods sections typically do not exceed 3,000 words. Authors can deposit the step-by-step protocols used in their study to [Protocol Exchange](#), an open resource maintained by NPG. Protocols deposited by the authors will be linked to the online Methods section upon publication.

Detailed descriptions of methods already published should be avoided; a reference number can be provided to save space, with any new addition or variation stated.

The Methods section should be subdivided by short bold headings referring to methods used and we encourage the inclusion of specific subsections for statistics, reagents and animal models. If further references are included in this section, the numbering should continue from the end of the last reference number in the rest of the paper and the list should accompany the additional Methods at the end of the paper.

Please provide a Data Availability statement in the Methods section under "Data Availability"; detailed guidance can be found in our [data availability and data citations policy](#). Certain data types must be deposited in an appropriate public structured data depository (details are available [here](#)), and the accession number(s) provided in the manuscript. Full access is required at publication. Should full access to data be required for peer review, authors must provide it.

The Methods section cannot contain figures or tables (essential display items should be included in the Extended Data).

References

References are each numbered, ordered sequentially as they appear in the text, tables, boxes, figure legends, online-only Methods, Extended Data tables and Extended Data figure legends.

When cited in the text, reference numbers are superscript, not in parentheses unless they are likely to be confused with a superscript number. Only one publication can be listed for each number.

Only articles that have been published or submitted to a named publication are included in the reference list; papers in preparation are mentioned in the text with a list of authors (or initials if any of the authors are co-authors of the present contribution).

Published conference abstracts, numbered patents and preprints on recognized servers are included in reference lists, but text, grant details and acknowledgements are not.

In preparing reference lists, please ensure that:

- Authors are listed surname first, followed by a comma and initials of given names. All authors are included in reference lists unless there are more than five, in which case only the first author should be given, followed by 'et al.'
- Titles of all cited articles are given in upright, not italic text. The first word of the title is capitalized, the title written exactly as it appears in the work cited, ending with a full stop. Book titles are italic with all main words capitalized. Journal titles are italic and abbreviated according to common usage (see published issues of *Nature*).
- Volume numbers are bold. The publisher and city of publication are required for books cited.
- References to online-only journals are in the style: authors, article title and journal name as above, followed by URL in full — or DOI if known — and the year of publication in parentheses.
- References to websites are in the style: authors (if known), title of cited page, URL in full, and year of posting in parentheses.

End notes

End notes are brief and follow the reference list. They contain a statement for supplementary information where present; acknowledgements; author contributions; and author information (the latter should contain a competing interests statement, if applicable). Consult the information sheet '[Nature end notes](#)' for an annotated example.

Life sciences reporting guidelines

To improve the transparency of reporting and the reproducibility of published results, authors of life sciences research manuscripts must provide details about [elements of experimental and analytical design](#) that are frequently poorly reported. Before peer review, you must complete a [reporting summary](#) that will be available to editors and reviewers during manuscript assessment and will be published with the manuscript, if accepted. All authors must also complete an [editorial policy checklist](#) to ensure compliance with Nature Research editorial policies. Because of the forms' advanced features, you must use Adobe Reader to open the documents and fill them out. Guidance and resources related to the use and reporting of statistics are available [here](#).

Other reporting summaries or checklists

For certain research areas, you may be asked to complete an additional or a different reporting summary or checklist prior to peer review.

Tables

Tables should be presented on separate pages, portrait orientation, and upright on the page.

Tables have a short, one-line title in bold text and should be as small as possible. Symbols and abbreviations are defined immediately below the table, followed by essential descriptive material as briefly as possible, in double-spaced text.

Figure legends

For initial submissions, we encourage authors to incorporate the manuscript text and figures together in a single file, and for each figure legend to be presented together with its figure. However, if a paper is accepted, we require figure legends to be listed one after the other, as part of the text document, separate from the figure files.

Each figure legend should begin with a brief title for the whole figure and continue with a short description of each panel and the symbols used. For contributions with methods sections, legends should not contain details of methods, or exceed 100 words (fewer than 500 words for the whole paper). In contributions without methods sections, legends should be less than 300 words (less than 800 words in total).

Figures

Nature requires electronic figures that are as small and simple as is compatible with clarity. At submission these should be good enough quality to be assessed by referees, ideally incorporated with the manuscript text in a single Word doc or PDF. If authors are unable to include figures with the manuscript text, they can be supplied separately as JPEGs (but they should not be at the high resolution necessary for publication quality; see [www.nature.com/nature/authors/submissions/subs](#)).

Figures should not contain more than one panel unless the parts are logically connected; each panel of a multipart figure should be sized so that the whole figure can be reduced by the same amount and reproduced on the printed page at the smallest size at which essential details are visible. For guidance, *Nature's* standard figure sizes are 89 mm (single column) and 183 mm (double column) and the full depth of the page is 247 mm.

Nature encourages authors to submit with their manuscripts a scanned pdf of any composite figures with the panels arranged and the whole reduced to the size the author envisages on a printed page.

Amino-acid sequences should be in Courier (or other monospaced) font using the one-letter code in lines of 50 or 100 characters.

Lettering in figures should be in lower-case type, with the first letter capitalized and no full stop. Units should have a single space between the number and the unit, and follow SI nomenclature or the nomenclature common to a particular field. Thousands should be separated by commas (1,000). Unusual units or abbreviations are defined in the legend. Scale bars should be used rather than magnification factors.

Layering type directly over shaded or textured areas and using reversed type (white lettering on a coloured background) should be avoided.

Text, including keys to symbols, should be provided in the legend rather than on the figure itself.

Figure costs

We charge £877 for the first colour figure and £313 for each additional one. *Nature* bears the remaining reproduction costs. Inability to pay this fee will not prevent publication of essential colour figures; this must be agreed with the editor prior to acceptance.

Third party rights

Nature discourages the use or adaptation of previously published display items (for example, figures, tables, images, videos or text boxes). However, we recognize that to illustrate some concepts the use of published data is required and the reuse of previously published display items may be necessary. Please note that in these instances we might not be able to obtain the necessary rights for some images to be re-used (as is, or adapted versions) in our articles. In such cases, we will contact you to discuss the sourcing of alternative material.

Production-quality figures

When a manuscript is accepted in principle for publication, the editor will ask for high-resolution figures. For preparation of production-quality figures, see the information sheet '[Guide to preparing final artwork](#)'.

Extended Data

Extended Data figures and tables are online-only (appearing in the online

PDF and full-text HTML version of the paper), peer-reviewed display items that provide essential background to the Article or Letter but are not included in the printed version of the paper due to space constraints or being of interest only to a few specialists. A maximum of ten Extended Data display items (figures and tables) is permitted. See '[Composition of a Nature research paper](#)'.

Extended Data figures should be prepared along slightly different guidelines compared to figures appearing in print, and may be multi-panelled as long as they fit to size rules (see '[Extended Data Formatting Guide](#)'). Extended Data figures are not edited or styled by *Nature*'s art department; for this reason, authors are requested to follow *Nature* style as closely as possible when preparing these figures. The legends for Extended Data figures should be prepared as for print figures and should be listed one after the other at the end of the Word file.

If space allows, *Nature* encourages authors to include a simple schematic, as a panel in an Extended Data figure, that summarizes the main finding of the paper, where appropriate (for example, to assist understanding of complex detail in cell, structural and molecular biology disciplines). If a manuscript has Extended Data figures or tables, authors are asked to refer to discrete items at an appropriate place in the main text.

If further references are included in the Extended Data tables and

Extended Data figure legends, the numbering should continue from the end of the last reference number in the main paper (or from the last reference number in the additional Methods section if present) and the list should be added to the end of the list accompanying the additional Methods section, if present, or added below the Extended Data legends if no additional Methods section is present.

Supplementary Information

Supplementary Information (SI) is online-only, peer-reviewed material that is essential background to the Article or Letter, but which is too large or impractical to be included in the printed version. See www.nature.com/nature/authors/submissions/final/supinfo.html.

If a manuscript has accompanying SI, either at submission or in response to an editor's letter that requests it, authors are asked to refer to discrete items of the SI (for example, videos, tables) at an appropriate point in the main manuscript.

SUBMISSION

Articles and Letters should be submitted online and will not be considered if sent by post or e-mail. See www.nature.com/nature/authors/submissions/subs for details.

Before submitting, all co-authors must have read and agreed to *Nature*'s publication policies (see www.nature.com/authors/editorial_policies).