

AIMS AND SCOPE OF JOURNAL

Nature Medicine is a biomedical research journal devoted to publishing the latest and most exciting advances in biomedical research for scientists and physicians, with an emphasis on clarity of presentation. Articles cover fields such as cancer biology, cardiovascular research, gene therapy, immunology, vaccine development, and neuroscience, aiming to keep Ph.D. and M.D. readers informed of a wide range of biomedical research findings. Original research articles published in *Nature Medicine* range from basic findings that have clear implications for disease pathogenesis and therapy to the earliest phases of human investigation, and are submitted from research groups at universities, independent research institutions, and biotechnology and pharmaceutical industries world-wide. As a cross-disciplinary journal at the heart of the international biomedical research community, *Nature Medicine* publishes the most relevant original research articles, news, and commentary that form the foundations of tomorrow's medicine.

SAMPLE ISSUE

Free online access to the January 2004 issue is available at <http://www.nature.com/nm/journal/v10/n1>.

EDITORIAL PROCESS

The overview of the journal's manuscript decision process includes submission, editorial decision on whether the paper should be reviewed, peer review, decisions after review, revision, acceptance in principle, final submission and acceptance, proofs, advance online publication, and print publication. Before submitting a paper, authors should consult our editorial policies (http://www.nature.com/authors/editorial_policies/index.html), as well as technical tips (http://mtsccommon.nature.com/tips/nres_tips.html) for using our online submission system (<http://mts-nmed.nature.com>).

Please also consult our general guide for manuscript preparation and submission, which includes information on article formats, journal style, and figure preparation tips. Note that procedures for initial submission, revision, and final submission are slightly different, so please consult the directions before proceeding to the online submission system. Presubmission inquiries are not a prerequisite for the regular submission process, but are intended as a mechanism for authors to receive rapid feedback on whether a manuscript in preparation is likely to be of interest to the journal. We encourage authors who have already prepared their manuscripts to bypass the presubmission inquiry process and upload their papers as a regular submission to the journal.

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A full list of journal staff appears at <http://www.nature.com/nm/about/masthead/index.html>.

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Please see authors & referees @ npg at <http://www.nature.com/authors/index.html> for detailed information about author and referee services and publication policies at the Nature family of journals. These journals, including *Nature Medicine*, share a number of common policies including the following:

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GUIDE TO AUTHORS

IMPACT FACTOR

The 2007 impact factor for *Nature Medicine* is 26.382, according to the ISI Journal Citation Reports. This places *Nature Medicine* as the top primary research journal in Medicine (Research and Experimental).

The 2007 impact factor represents the number of citations in 2007 to papers published in 2005 and 2006, divided by the total number of papers published in 2005 and 2006. A more detailed explanation of impact factors appears on the ISI web site.

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ABBREVIATION

The correct abbreviation for abstracting and indexing purposes is *Nat. Med.*

ISSN AND EISSN

The international standard serial number (ISSN) for *Nature Medicine* is 1078-8956, and the electronic international standard serial number (EISSN) is 1546-170X.

Content Types

Primary research formats

An **Article** is a substantial novel research study, with a complex story often involving several techniques or approaches. The main text (excluding abstract, Methods, references and figure legends) is 3,000 words maximum. The abstract is 150 words maximum, unreferenced. Articles have a maximum of 6 display items (figures and/or tables). An introduction (without heading) is followed by sections headed Results, Discussion and Methods. The Results and Methods should be divided by topical subheadings; the Discussion does not contain subheadings. If statistical testing was used to analyze the data, the Methods section must contain a subsection on statistical analysis. References are limited to 60.

Articles include received/accepted dates. They may be accompanied by supplementary information. Articles are peer reviewed, and authors must provide a competing financial interests statement before publication.

A **Letter** reports an important novel research result, but is less substantial than an Article. This format begins with an introductory paragraph (not abstract) of 200 words maximum, summarizing the background, rationale, main results and implications. This paragraph should be referenced, as in Nature style, and should be considered part of main text, so that any subsequent introductory material avoids too much redundancy with the introductory paragraph. The text is limited to 1500 words, excluding the introductory paragraph, Methods, references and figure legends. References are limited to 40. Letters should have no more than 4 display items (figures and/or tables). Letters are not divided by headings, except for

the Methods heading. If statistical testing was used to analyze the data, the Methods section must contain a subsection on statistical analysis.

Letters include received/accepted dates. They may be accompanied by supplementary information. Letters are peer reviewed, and authors must provide a competing financial interests statement before publication.

A **Technical Report** presents primary research data on a new technique that is likely to be influential. This format is not a review of technology, but its primary report in the literature. It may involve a new biological discovery to prove the usefulness of the technique, but this is not a requirement. Technical Reports have a format broadly similar to that of Articles, though many Technical Reports are shorter than a typical Article. They begin with an unreferenced abstract (typically 150 words) followed by separate sections for introduction, Results, Discussion (with optional subheadings) and Methods. If statistical testing was used to analyze the data, the Methods section must contain a subsection on statistical analysis. There is no strict limit on the number of display items. References are normally limited to 30, but this can be flexible at the editor's discretion.

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A **Brief Communication** reports a concise study of high quality and broad interest. This format may not exceed 3 printed pages. Brief Communications begin with a brief unreferenced abstract (3 sentences, no more than 70 words), which will appear on Medline. The title is limited to 10 words (or 90 characters). The main text is 1,000 words maximum plus references and figure legends, and contains no headings. Brief Communications normally have no more than 2 display items. References are limited to 20. Article titles are omitted from the reference list.

Brief Communications include received/accepted dates. They may be accompanied by supplementary information. Brief Communications are peer reviewed, and authors must provide a competing financial interests statement before publication.

OTHER FORMATS

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Authors must submit a competing financial interests statement, which is printed only if they declare that they have competing interests. In cases where a correspondence is critical of a previous research paper, the authors are normally given the option of publishing a brief reply. Criticism of opinions or other secondary matter does not involve an automatic right of reply.

Refutations are always peer reviewed. Other types of Correspondence may be peer reviewed at the editors' discretion. Authors must provide a competing financial interests statement before publication.

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Book Reviews are by prior arrangement only, although suggestions are welcome. Book reviews are not peer reviewed. Authors must provide a competing financial interests statement before publication.

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Authors must provide a competing financial interests statement before publication. Received/accepted dates are not included. Reviews are always peer reviewed to ensure factual accuracy, appropriate citations and scholarly balance.

Commentary is a very flexible format; Commentaries may be on policy, science and society or purely scientific issues. The main criteria are that they should be of immediate interest to a broad readership and should be written in an accessible, non-technical style. Their length is typically 1–4 pages, although some may be longer. Because the content is variable, the format is also flexible. Commentaries do not normally contain primary research data, although they may present 'sociological' data (funding trends, demographics, bibliographic data, etc.). References are limited to 25, and article titles are omitted from the reference list.

The related format **Historical Commentary** is a journalistic treatment of the history of a particular discovery or technical development. These pieces may be a personal account by one of the participants or may present strong personal opinions. This format does not necessarily seek scholarly balance, and it should be journalistic and accessible rather than scholarly in style.

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Perspective is a new format for scholarly reviews and discussions of the primary research literature that are too technical for a Commentary but do not meet the criteria for a Review—either because the scope is too narrow, or because the author is advocating a controversial position or a speculative hypothesis or discussing work primarily from one group. Two reviews advocating opposite sides in a research controversy are normally published as Perspectives. The text should not normally exceed 3000 words. References are limited to 50.

The related format **Historical Perspective** is a more technical account of a particular scientific development. Like other Perspectives, and in contrast to Historical Commentary, Historical Perspectives are scholarly reviews, including citation of key references, aiming to present a balanced account of the historical events, not merely personal opinions or reminiscences.

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Manuscripts reporting new structures should contain a table summarizing structural and refinement statistics. Templates for such tables describing NMR (http://www.nature.com/nm/authors/submit/Tables_NMR_F.doc) and X-ray crystallography data (http://www.nature.com/nm/authors/submit/Tables_Xray_F.doc) are available online. To facilitate assessment of the quality of the structural data, a stereo image of a portion of the electron density map (for crystallography papers) or of the superimposed lowest energy structures (>10; for NMR papers) should be provided with the submitted manuscript. If the reported structure represents a novel overall fold, a stereo image of the entire structure (as a backbone trace) should also be provided.

Please use American English spelling throughout.

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The Methods section of original research articles will appear online only. Print readers will be directed to the online version of the paper for detailed methods and associated references. Please provide a Methods section with subsections detailing all the methods used in the paper. The Methods section should be no longer than 800 words and should be placed at the very end of the manuscript, after the Acknowledgments, Author Contributions, figure legends and tables, but before the references.

A single list of references should be provided, with any new citations that appear in the Methods section numbered consecutively beginning after the last reference cited in the main text, figure legends and tables. The combined reference number in the main text, figure legends, tables and online Methods should not exceed the number listed for each content type as indicated in the Content Types section of this guide. Only one publication is given for each number, and footnotes are not used. Only papers that have been published or accepted by a named publication should be in the numbered list; meeting abstracts that are not published and papers in preparation should be mentioned in the text with a list of authors (or initials if any of the authors are co-authors of the present contribution). URLs for web sites should be cited parenthetically in the text, not in the reference list; articles in formal, peer-reviewed online journals should be included in the reference list. Grant details and acknowledgments are not permitted as numbered references.

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Figure legends for Articles, Letters or Technical Reports begin with a brief title for the whole figure and continue with a short description of each panel and the symbols used, focusing on describing what is shown in the figure and de-emphasizing methodological details. Each legend should total no more than 250 words. Brief Communications have short figure legends (generally less than 100 words), which may include details of methods.

GENE NOMENCLATURE

Authors should use approved nomenclature for gene symbols, and use symbols rather than italicized full names (*Ttn*, not *titin*). Please consult the appropriate nomenclature databases for correct gene names and symbols. A useful resource is LocusLink at <http://www.ncbi.nih.gov/entrez/query.fcgi?db=gene>. Approved human gene symbols are provided by HUGO Gene Nomenclature Committee (HGNC), e-mail: hgnc@genenames.org; see also <http://www.genenames.org>. Approved mouse symbols are provided by The Jackson

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Avoid listing multiple names of genes (or proteins) separated by a slash, as in ‘*Oct4/Pou5f1*’, as this is ambiguous (it could mean a ratio, a complex, alternative names or different subunits). Use one name throughout and include the other at first mention: ‘*Oct4* (also known as *Pou5f1*)’.

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Every article that contains statistical testing should state the name of the statistical test, the *n* for each statistical analysis, the comparisons of interest, a justification for the use of that test (including, for example, a discussion of the normality of the data when the test is appropriate only for normal data), the alpha level for all tests, whether the tests were one-tailed or two-tailed, and the actual *P* value for each test (not merely “significant” or “ $P < .05$ ”). It should be clear what statistical test was used to generate every *P* value. In the case of Brief Communications, these details should be reported in the text or the figure captions.

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Authors must justify the use of a particular test and explain whether data conform to the assumptions of the tests. Three errors are particularly common.

- *Multiple comparisons*: When making multiple statistical comparisons on a single data set, authors should explain how they adjusted the alpha level to avoid an inflated Type I error rate, or they should select statistical tests appropriate for multiple groups (such as ANOVA rather than a series of *t*-tests).
- *Normal distribution*: Many statistical tests require that the data be approximately normally distributed; when using these tests, authors should explain how they tested their data for normality. If the data do not meet the assumptions of the test, then a non-parametric alternative should be used instead.
- *Small sample size*: When the sample size is small (less than about 10), authors should use tests appropriate to small samples or justify their use of large-sample tests.

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Unnecessary figures and parts (panels) of figures and tables should be avoided: data presented in small tables or histograms, for instance, can generally be stated briefly in the text instead. 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. When a manuscript is accepted for publication, we will ask for high-resolution figure files, possibly in a different electronic format. This information will be included in the acceptance letter.

Lettering on figures should be in Helvetica or Arial; if possible, the same typeface in approximately the same font size should be used for all figures in a paper. Use symbol font for Greek letters. Figures should be on a white background, and should avoid excessive boxing, unnecessary color, spurious decorative effects (such as three-dimensional ‘skyscraper’ histograms) and highly pixelated computer drawings. The vertical axis of histograms should not be truncated to exaggerate small differences. Labeling must be of sufficient size and contrast to be readable after appropriate reduction. The thinnest lines in the final figure should be no smaller than one point wide. Authors will see a proof of figures. Reasonable requests to enlarge figures will be considered, but editors will make the final decision on figure size.

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Where there is supplementary information to be included exclusively in the online version of a paper published in *Nature Medicine*, please follow these guidelines, or publication may be delayed.

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Refer to each piece of supplementary material at the appropriate point(s) in the main article. Be sure to include the word "Supplementary" each time one is mentioned.

Use the following samples as a guide (note: abbreviate "Figure" as "Fig." when in parentheses).

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File sizes should be as small as possible, with a maximum size of 3 MB, so that they can be downloaded quickly. Images should be just large enough to view when the screen resolution is set to 640 x 480 pixels. Audio and video files should use a frame size no larger than 320 x 240 pixels. Remember to include a brief title and legend (incorporated into the file to appear near the image) as part of every figure submitted, and a title as part of every table.

Further queries about submission and preparation of supplementary information should be directed to the editor handling the manuscript.

Manuscript decisions

PRESUBMISSION INQUIRIES

Researchers may request informal feedback from the editors on the journal's interest in a particular manuscript. A short 'presubmission inquiry'

can be sent through the online submission system at <http://mts-nmed.nature.com>. Researchers should include a letter explaining the major question addressed by the work, the methodologies used to gather the data, the interest to a broad scientific readership, the new results and why they are significant. If an abstract is available, this should also be included. If authors have already written the manuscript, they are encouraged to submit it in its entirety via the online submission system.

Editors will express interest in presubmission inquiries on the basis of the information provided by the authors. In cases where editors decline a full submission, authors are still free to submit through our online submission system so that editors have an opportunity to evaluate the paper in full. Papers invited after a presubmission inquiry may be rejected without review once the editors have had a chance to consider the paper in its entirety.

INITIAL SUBMISSION

Papers should be submitted via the online submission system at <http://mts-nmed.nature.com>. Each new submission is assigned to a primary editor, who reads the paper, consults with the other editors, and decides whether it should be sent for peer review. Many papers describing solid studies of interest to those in the field are nonetheless judged to be unlikely to compete successfully with the best work submitted to the journal.

Like other journals in the Nature family, *Nature Medicine* has no external editorial board. However, if a paper's importance within the field is unclear, an editor may request advice from outside experts in deciding whether to review it. The novelty of a submitted paper is considered to be compromised if it has significant conceptual overlap with a published paper or one accepted for publication by *Nature Medicine*. Preprint archives do not compromise novelty.

If a paper was previously reviewed at another Nature journal, the authors can use an automated manuscript transfer service to transfer the referees' reports to *Nature Medicine* via a link sent by the editor who handled the manuscript. In that case, the journal editors will take the previous reviews into account when making their decision, although in some cases the editors may choose to take advice from additional or alternative referees. Alternatively, authors may choose to request a fresh review, in which case they should not use the automated transfer link, and the editors will evaluate the paper without reference to the previous review process. However, this decision must be made at the time of initial submission and cannot be changed later. If the authors ask the editors to consider the previous reviews, they should include a note explaining the relationship between the submitted manuscript and the previous submission and (assuming it has been revised in light of the referees' criticisms) giving a point-by-point response to the referees. In cases where the work was felt to be of high quality, papers can sometimes be accepted without further review, but if there were serious criticisms, the editors will consider them in making the decision. In the event of publication, the received date is the date of submission to *Nature Medicine*. More details are available on the manuscript transfer service at http://www.nature.com/authors/author_services/transfer_manuscripts.html and on the relationships between Nature titles at http://www.nature.com/authors/author_services/about_nature_family.html.

PEER REVIEW

The corresponding author is notified by e-mail when the editor decides to send a paper for review. Authors may indicate a limited number of scientists who should not review the paper. Excluded scientists must be identified by name. Authors may also suggest referees; these suggestions are often helpful, although they are not always fol-

lowed. By policy, referees are not identified to the authors, except at the request of the referee.

Conceptually similar manuscripts are held to the same editorial standards as far as possible, and so they are often sent to the same referees. However, each of the cosubmitted manuscripts must meet the criteria for publication without reference to the other paper. Thus if one paper is substantially less complete or convincing than the other, it may be rejected, even if the papers reach the same conclusion.

DECISION AFTER REVIEW AND REVISION

When making a decision after review, editors consider not only how good the paper is now, but also how good it might become after revision.

In cases where the referees have requested well-defined changes to the manuscript that do not appear to require extensive further experiments, editors may request a revised manuscript that addresses the referees' concerns. The revised version is normally sent back to some or all of the original referees for re-review. The decision letter will specify a deadline (typically six weeks), and revisions that are returned within this period will retain their original submission date.

In cases where the referees' concerns are more wide-ranging, editors will normally reject the manuscript. If the editors feel the work is of potential interest to the journal, however, they may express interest in seeing a future resubmission. The resubmitted manuscript may be sent back to the original referees or to new referees, at the editors' discretion. In such cases, revised manuscripts will not retain their earlier submission date.

In either case, the revised manuscript should be accompanied by a cover letter that includes a point-by-point response to referees' comments and an explanation of how the manuscript has been changed.

An invited revision should be submitted via the revision link to the online submission system provided in the decision letter, not as a new manuscript.

FINAL SUBMISSION AND ACCEPTANCE

A request for final submission is sent when the paper is nearly ready to publish, possibly requiring some text changes but no revisions to the data or conclusions. These letters are accompanied by detailed comments on the paper's format from the copy editor. A high priority of *Nature Medicine* is that all papers be accessible to nonspecialists. Manuscripts are subject to substantial editing to achieve this goal. After acceptance, a copy editor may make further changes so that the text and figures are readable and clear to those outside the field, and so that papers conform to our style.

For the final revision, authors should use the revision link to the online submission system provided in the decision letter to upload a final version of the text with all the requested format changes. Electronic files of the final figures, at high resolution, should be sent separately on disk or via ftp.

When all remaining editorial issues are resolved, the paper is formally accepted. The received date is the date on which the editors received the original (or if previously rejected, the resubmitted) manuscript. The accepted date is when the editor sends the acceptance letter.

Contributors are sent proofs and are welcome to discuss proposed changes with the editors, but *Nature Medicine* reserves the right to make the final decision about matters of style and the size of figures.

APPEALS

Even in cases where editors did not invite resubmission, some authors ask the editors to reconsider a rejection decision. These are consid-

GUIDE TO AUTHORS

ered appeals, which, by policy, must take second place to the normal workload. In practice, this means that decisions on appeals often take several weeks.

Decisions are reversed on appeal only if the editors are convinced that the original decision was a serious mistake, not merely a borderline call that could have gone either way. Further consideration may be merited if a referee made substantial errors of fact or showed evidence of bias, but only if a reversal of that referee's opinion would have changed the original decision. Similarly, disputes on factual issues need not be resolved unless they were critical to the outcome. Thus, after careful consideration of the authors' points, most appeals are rejected by the editors.

If an appeal merits further consideration, the editors may send the authors' response or the revised paper to one or more referees, or they may ask one referee to comment on the concerns raised by another referee. On occasion, particularly if the editors feel that additional technical expertise is needed to make a decision, they may obtain advice from an additional referee.

Contact the Journal

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The Editor
Nature Medicine
75 Varick Street
New York, NY 10013 USA
Tel: (212) 726-9325; Fax: (212) 683-5751
E-mail: medicine@natureny.com

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Please send inquiries via our online submission system, designating

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INQUIRIES ABOUT THE STATUS OF A MANUSCRIPT

Editorial Assistant, medicine@natureny.com

Receipt of submitted manuscripts will be acknowledged by e-mail.

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Please return referee comments to the URL included in the referee instruction letter sent to you after you agreed to review the manuscript. The review can also be returned by accessing the manuscript you are reviewing on your personal *Nature Medicine* homepage and, when on the manuscript's summary page, selecting the link 'Review Manuscript'. Alternatively, the review can be sent to medicine@natureny.com, quoting the manuscript tracking number of the manuscript to which the review applies.

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