

1. Summary Table

Please view the table below for a summary on currently accepted article types and general manuscript style guidelines.

	Abstract max. length (including spaces)	Running title (5or words)	Figures tables	Manuscript max. length	Final PDF length	Peer review	Author fees	Submitted to PubMed Central or other indexing databases
Original Research	2000 characters	✓	15	12'000 words	12 pages	✓	✓	✓
Clinical Trial	2000 characters	✓	15	12'000 words	12 pages	✓	✓	✓
Hypothesis and Theory	2000 characters	✓	15	12'000 words	12 pages	✓	✓	✓
Methods	2000 characters	✓	15	12'000 words	12 pages	✓	✓	✓
Review	2000 characters	✓	15	12'000 words	12 pages	✓	✓	✓
Technology Report	2000 characters	✓	15	12'000 words	12 pages	✓	✓	✓
Focused Review (1)	2000 characters	✓	5	5'000 words	5 pages	✓	✗	✓
Perspective	1250 characters	✓	2	3'000 words	3 pages	✓	✓	✓
Mini Review	1250 characters	✓	2	3'000 words	3 pages	✓	✓	✓
CPC	1250 characters	✓	6	2'500 words	4 pages	✓	✓	✓
Clinical Case Study	2000 characters	✓	15	12'000 words	12 pages	✓	✓	✓
Classification	1250 characters	✓	10	2'000 words	12 pages	✓	✓	✓

Editorial	✗	✗	0	1'000 words	1 pages	✓	✗	✓
Frontiers Commentary (1)	✗	✗	1	1'000 words	1 pages	✓	✗	✓
General Commentary	✗	✗	1	1'000 words	1 pages	✓	✗	✓
Opinion	✗	✓	1	2'000 words	2 pages	✓	✗	✓
Book Review	✗	✗	1	1'000 words	1 pages	✓	✗	✓
Field Grand Challenge	✗	✓	1	2'000 words	2 pages	✓	✗	✓
Specialty Grand Challenge	✗	✓	1	2'000 words	2 pages	✓	✗	✓

(1) Tier 2 article - field level article reserved to authors of selected Tier 1 articles.

2. Manuscript Guidelines

Registration with Frontiers

Please note that the corresponding and all submitting authors **MUST** register with Frontiers before submitting an article. You must be logged in your personal Frontiers Account to submit an article.

For any co-author who would like his/her name on the article abstract page and PDF to be linked to a Frontiers profile, please ensure to register before the final publication of the paper.

Article Type

Frontiers requires authors to carefully select the appropriate article type for their manuscript, and to comply to the article type descriptions defined in the journal's "Article Types", which can be seen from the left menu on any Frontiers journal page. Please pay close attention to the word count limits. Focused Reviews, Frontiers Commentaries and Grand Challenge articles are invited by the chief editor and cannot be part of any Frontiers Research Topic. Unless you were contacted by the chief editor or the editorial office regarding the submission of a paper selected for tier 2 promotion, do not submit a Focused Review or a Frontiers Commentary - instead, submit a Review or a General Commentary.

Manuscript Length

Frontiers encourages its authors to closely follow the article word count lengths given in the Summary Table. The manuscript length includes only the main body of the text and all citations within it, and excludes abstract, section titles, figure and table captions, and references at the

bottom of the manuscript. Please indicate the number of words and the number of figures included in your manuscript on the first page.

Language Style

Authors are requested to follow American English spelling. For any questions regarding style Frontiers recommends authors to consult the Chicago Manual of Style.

Title

The title is centered, and in 16 point bold Times New Roman font at the top of page. Except for special names (e.g., GABAergic), capitalize only the first letter of the title.

The title should be concise, omitting terms that are implicit and, where possible, be a statement of the main result or conclusion presented in the manuscript. Authors should try to avoid, if possible:

Titles that are a mere question without giving the answer.

Unambitious titles, for example starting with "Towards", "A description of", "A characterization of".

Vague titles, for example starting with "Role of...", "Link between...", "Effect of..." that do not specify the role, link, or effect.

Include terms that are out of place, for example the taxonomic affiliation apart from species name.

For article types requiring it, the running title should be a maximum of 5 words in length. (see Summary Table)

Authors and Affiliations

All names are listed together and separated by commas. Provide exact and correct author names as these will be indexed in official archives. Any change requests after publication will incur additional costs and will be solely at the author's charge. Affiliations should be keyed to the author's name with superscript numbers and be listed as follows: Laboratory, Institute, Department, Organization, City, State abbreviation (USA, Canada, Australia), and Country (without detailed address information such as city zip codes or street names).

Example: Max Maximus, Department of Excellence, International University of Science, New York, NY, USA.

The Corresponding Author should be marked with an asterisk. Provide the exact contact address (this time including street name and city zip code) and email of the corresponding author in a separate paragraph, as shown below:

Correspondence:

Dr. Max Maximus

International University of Science

Department of Excellence

Laboratory of High Impact

Street 2460,

New York, NY, 59066, USA

maximus@gmail.com

If one of the authors has a change of address, list the new address below the correspondence details using a superscript symbol and use the same symbol to indicate the author in the author list.

Headings and Sub-headings

Except for special names (e.g. GABAergic), capitalize only the first letter of headings and subheadings. Headings and subheadings need to be defined in Times New Roman, 12, bold. You may insert up to 4 heading levels into your manuscript (not more than for example: 3.2.2.1. Heading title).

Abstract

As a primary goal, the abstract should render the general significance and conceptual advance of the work clearly accessible to a broad readership. References should not be cited in the abstract. The text of the abstract section should be in 12 point normal Times New Roman. See Summary Table for abstract requirement and length according to article type.

For Clinical Trial article types, please include the Unique Identifier and the URL of the publicly accessible website on which the trial is registered.

Keywords

All article types: you may provide up to 8 keywords; at least 5 are mandatory.

Text

The body text is in 12 point normal Times New Roman. New paragraphs will be separated with a single empty line. The entire document should be single-spaced and should contain line numbers in order to facilitate the review process. Your manuscript should be written using either LaTeX or MS-Word.

Nomenclature

Non-standard abbreviations should be defined when first used in the text.

Equations should be inserted in editable format from the equation editor.

Gene symbols should be italicized; protein products are not italicized.

Chemical compounds and biomolecules should be referred to using systematic nomenclature, preferably using the recommendations by IUPAC.

We encourage the use of Standard International Units in all manuscripts.

Sections

Your manuscript is organized by headings and subheadings.

For Original Research Articles, Clinical Trial Articles, and Technology Reports the section headings should be those appropriate for your field and the research itself. It is recommended to organize your manuscript in the following sections or their equivalents for your field:

Introduction

Succinct, with no subheadings.

Material and Methods

This section may be divided by subheadings. This section should contain sufficient detail so that when read in conjunction with cited references, all procedures can be repeated.

Results

This section may be divided by subheadings. Footnotes should not be used and have to be transferred into the main text.

Discussion

This section may be divided by subheadings. Discussions should cover the key findings of the study: discuss any prior art related to the subject so to place the novelty of the discovery in the appropriate context; discuss the potential short-comings and limitations on their interpretations; discuss their integration into the current understanding of the problem and how this advances

the current views; speculate on the future direction of the research and freely postulate theories that could be tested in the future.

For Clinical Case Studies the following sections are mandatory:

Introduction

Include symptoms at presentation, physical exams and lab results.

Background

This section may be divided by subheadings. Include history and review of similar cases.

Discussion

This section may be divided by subheadings. Include diagnosis and treatment.

Concluding Remarks

For all other article types there are no mandatory sections.

Conflict of Interest Statement

Frontiers follows the recommendations by the International Committee of Medical Journal Editors (http://www.icmje.org/ethical_4conflicts.html) which require that all financial, commercial or other relationships that might be perceived by the academic community as representing a potential conflict of interest must be disclosed. If no such relationship exists, authors will be asked to declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. When disclosing the potential conflict of interest, the authors need to address the following points:

Did you or your institution at any time receive payment or services from a third party for any aspect of the submitted work?

Please declare financial relationships with entities that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work. Please declare patents and copyrights, whether pending, issued, licensed and/or receiving royalties relevant to the work.

Please state other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work.

Author and Contributors

When determining authorship the following criteria should be observed:

Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

Drafting the work or revising it critically for important intellectual content; AND

Final approval of the version to be published; AND

Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Contributors who meet fewer than all 4 of the above criteria for authorship should not be listed as authors, but they should be acknowledged. (http://www.icmje.org/roles_a.html)

The statement about the authors and contributors can be up to several sentences long, describing the tasks of individual authors referred to by their initials and should be included at the end of the manuscript before the References section.

Acknowledgments

This is a short text to acknowledge the contributions of specific colleagues, institutions, or agencies that aided the efforts of the authors. A statement about the principal source of funding

should be inserted if appropriate, including grant numbers if appropriate.

References

All citations in the text, figures or tables must be in the reference list and vice-versa. The references should only include articles that are published or accepted. For accepted but unpublished works use in press instead of page numbers. Unpublished data, submitted manuscripts, or personal communications should be cited within the text only. Personal communications should be documented by a letter of permission. Any inclusion of verbatim text must be contained in quotation marks and clearly reference the original source.

SCIENCE and ENGINEERING: For articles submitted in the domain of SCIENCE and ENGINEERING please apply Author-Year system for in-text citations.

reference list: provide ALL complete author names and doi when available.

In-text citations should be called according to the surname of the first author, followed by the year. For works by 2 authors include both surnames, followed by the year. For works by more than 2 authors include only the surname of the first author, followed by et al., followed by the year.

Article in a periodical:

Sondheimer, N., and Lindquist, S. (2000). Rnq1: an epigenetic modifier of protein function in yeast. *Mol. Cell.* 5, 163-172.

Article in a book:

Sorenson, P. W., and Caprio, J. C. (1998). "Chemoreception," in *The Physiology of Fishes*, ed. D. H. Evans (Boca Raton, FL: CRC Press), 375-405.

Book:

Cowan, W. M., Jessell, T. M., and Zipursky, S. L. (1997). *Molecular and Cellular Approaches to Neural Development*. New York: Oxford University Press.

Article in an electronic journal:

Tahimic, C.G.T., Wang, Y., Bikle, D.D. (2013). Anabolic effects of IGF-1 signaling on the skeleton. *Front. Endocrinol.* 4:6. doi: 10.3389/fendo.2013.00006.

For general questions regarding reference style, please refer to the Chicago Manual of Style.

Frontiers Science Endnote Style

Frontiers Science Bibstyle

MEDICINE: For articles submitted in the domain of MEDICINE please apply the Vancouver system for in-text citations.

reference list: provide ALL complete author names and doi when available.

In-text citations should be numbered consecutively in order of appearance in the text – identified by Arabic numerals in the parenthesis.

Article in a periodical:

Sondheimer N, Lindquist S. Rnq1: an epigenetic modifier of protein function in yeast. *Mol Cell* (2000) 5: 163-72.

Article in a book:

Sorenson PW, Caprio JC. "Chemoreception,". In: Evans DH, editor. *The Physiology of Fishes*. Boca Raton, FL: CRC Press (1998). p. 375-405.

Book:

Cowan WM, Jessell TM, Zipursky SL. *Molecular and Cellular Approaches to Neural Development*. New York: Oxford University Press (1997). 345 p.

Article in an electronic journal:

Tahimic CGT, Wang Y, Bikle DD. Anabolic effects of IGF-1 signaling on the skeleton. *Front Endocrinol* (2013) 4:6. doi: 10.3389/fendo.2013.00006.

For general questions regarding reference style, please refer to Citing Medicine.

Frontiers Medicine Endnote Style

Frontiers Medicine Bibstyle

Supplementary Material

Frontiers journals do not support pushing important results and information into supplementary sections. However, data that are not of primary importance to the text, or which cannot be included in the article because it is too large or the current format does not permit it (such as movies, raw data traces, power point presentations, etc.) can be uploaded during the submission procedure and will be displayed along with the published article. Supplementary material is not typeset so please ensure that all information is clearly presented and that the style conforms with the rest of the paper.

Word Files

If working with Word please use Frontiers Word.

LaTeX Files

If working with LaTeX please use Frontiers LaTeX.

For manuscripts submitted to Frontiers in Physics, in order to be able to upload more than one figure at a time or EPS figures, you will have to save the figures (labeled in order of appearance in the manuscript) in a zip file, and upload them as 'Presentation'. If you do so, please ensure that the figures appear at the end of the manuscript pdf by the time of submission.

3. Additional Requirements

Corrections

If you need to communicate important changes to an article please submit a General Commentary. Submit the article with the title "Erratum: Original Title of Article".

Commentaries on Articles

At the beginning of your manuscript provide the citation of the article commented on.

Focused Reviews

For Tier 2 invited Focused Reviews the sections Introduction, Material and Methods, Results, and Discussion are recommended. In addition the authors must submit a short biography of the corresponding author(s). This short biography has a maximum of 600 characters, including spaces.

A picture (5 x 5 cm, in *.tif or *.jpg, min 300 dpi) must be submitted along with the biography in the manuscript and separately during figure upload.

Focused Reviews highlight and explain key concepts of your work. Please highlight a minimum of four and a maximum of ten key concepts in bold in your manuscript and provide the definitions/explanations at the end of your manuscript under "Key Concepts". Each definition has a maximum of 400 characters, including spaces.

Human Subject and Animal Research

All experiments on live vertebrates or higher invertebrates must be performed in accordance with relevant institutional and national guidelines and regulations. In the manuscript,

authors must identify the committee approving the experiments and must confirm that all experiments conform to the relevant regulatory standards. For manuscripts reporting experiments on human subjects, authors must identify the committee approving the experiments and must also include a statement confirming that informed consent was obtained from all subjects. In Original Research Articles and Clinical Trial Articles these statements should appear in the Materials and Methods section.

Clinical Trial Registration

The World Health Organization defines clinical trial as "any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects on health outcomes." In accordance with the Clinical Trial Registration Statement from the International Committee of Medical Journal Editors (ICMJE), all clinical trials must be registered in a public trials registry at or before the onset of participant enrollment. This requirement applies to all clinical trials that begin enrollment after July 1, 2005. To meet the requirements of the ICMJE, clinical trials can be registered with any Primary Registry in the WHO Registry Network or an ICMJE approved registry.

Clinical trial reports should be compliant with the Consolidated Standards of Reporting Trials (CONSORT) both in terms of including a flow diagram presenting the enrollment, intervention allocation, follow-up, and data analysis with number of subjects for each and taking into account the CONSORT Checklist of items to include when reporting a randomized clinical trial.

The information on the clinical trial registration (Unique Identifier and URL) must be included in the abstract.

Inclusion of Proteomics Data

Authors should provide relevant information relating to how the peptide/protein matches were undertaken, including methods used to process and analyze data, false discovery rates (FDR) for large-scale studies and threshold or cut-off rates for peptide and protein matches. Further information could include software used, mass spectrometer type, sequence database and version, number of sequences in database, processing methods, mass tolerances used for matching, variable/fixed modifications, allowable missed cleavages, etc.

Authors should provide as supplementary material information used to identify proteins and/or peptides. This should include information such as accession numbers, observed mass (m/z), charge, delta mass, matched mass, peptide/protein scores, peptide modification, miscleavages, peptide sequence, match rank, matched species (for cross species matching), number of peptide matches, ambiguous protein/peptide matches should be indicated, etc. For quantitative proteomics analyses, authors should provide information to justify the statistical significance including biological replicates, statistical methods, estimates of uncertainty and the methods used for calculating error.

For peptide matches with biologically relevant post-translational modifications (PTM) and for any protein match that has occurred using a single mass spectrum, authors should include this information as raw data, annotated spectra or submit data to an online repository (recommended option).

Authors are encouraged to submit raw or matched data and 2-DE images to public proteomics repositories. Submission codes and/or links to data should be provided within the manuscript.

Data Sharing

Frontiers supports the policy of data sharing, and authors are advised to make freely available any materials and information described in their article, and any data relevant to the article (while not compromising confidentiality in the context of human-subject research) that may be reasonably requested by others for the purpose of academic and non-commercial research. In regards to deposition of data and data sharing through databases, Frontiers urges authors to comply with the current best practices within their discipline.

Crystallographic data for small molecules

Crystallographic data for small molecules should be submitted to the Cambridge Structural Database and the deposition number referenced appropriately in the manuscript. Upon publication full access must be provided.

Crystallographic data for large molecules (DNA, RNA, proteins, complexes) should be submitted to the Protein Data Bank and the deposition number referenced appropriately in the manuscript. Upon publication full access must be provided.

Cover Letter

When you submit your Manuscript, you will be required to add a cover letter directed to the Editor of the Journal. This should roughly include in the first paragraph, the Title of the manuscript, the article type, the Journal and section to which the manuscript is being submitted, and if it is part of a Research Topic. Below include a paragraph about what your manuscript presents, and why it should be published.

4. Figure and Table Guidelines

General Style Guidelines for Figures

Frontiers requires figures to be submitted individually, in the same order as they are referred to in the manuscript. Figures will then be automatically embedded at the bottom of the submitted manuscript. Kindly ensure that each table and figure is mentioned in the text and in numerical order. Permission must be obtained for use of copyrighted material from other sources (including the web). Please note that it is compulsory to follow figure instructions. Figures which are not according to the guidelines will cause substantial delay during the production process. The numbers of figures and tables allowed are shown in the Summary Table. There must be a self-explanatory label (including units) along each axis within graphs.

General Style Guidelines for Tables

Tables should be inserted into the manuscript. If you use a word processor, build your table in word. If you use a LaTeX processor, build your table in LaTeX. An empty line should be left before and after the table.

Please note that very large tables (covering several pages) cannot be included in the final PDF for reasons of space. These tables will be published as supplementary material on the online article abstract page at the time of acceptance. The author will be notified during the typesetting of the final article if this is the case. A link in the final PDF will direct to the online material.

Figure and Table Legends

Figure and table legends are required to have the same font as the main text (12 point normal Times New Roman, single spaced). Legends should be preceded by the appropriate label, for example "Figure 1" or "Table 4". Figure legends should be placed at the end of the manuscript. Table legends must be placed immediately before the table. Please use only a single paragraph for the legend. Figure panels are referred to by bold capital letters in brackets: (A), (B), (C), (D),

etc.

Image Size

Figure images should be prepared with the PDF layout in mind, with a width that corresponds to 1 column, 2 columns or 3 columns depending on article type.

Articles with an abstract are prepared using the 2 column layout: 2 column articles can contain images 85 mm or 180 mm wide.

Articles containing no abstract are prepared using the 3 column layout: 3 column articles can contain images 55 mm, 120 mm or 180 mm wide.

Format

The following formats are accepted:

TIFF (.tif) TIFF files should be saved using LZW compression or any other non-lossy compression method.

JPEG (.jpg)

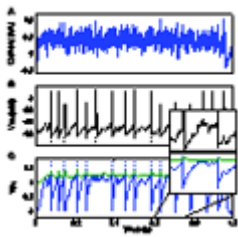
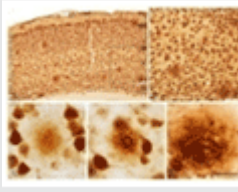
Color Image Mode

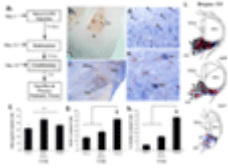
Images must be submitted in the color mode RGB.

Resolution Requirements

All images must be uploaded separately in the submission procedure. For black and white line art the minimum resolution should be 900 dpi. For halftone figures (photographs), the resolution should be a minimum of 300 dpi. For any type of graph or drawing in grayscale or combinations between line art and halftone, the resolution of your file should be a minimum of 600 dpi. Check the resolution of your figure by enlarging it to 150%. If the resolution is too low, the image will appear blurry, jagged or have a stair-stepped effect.

Please see the table below exemplifying the image specifications.

Image Type	Description	Example	Format	Color Mode	Resolution
Line Art:	An image composed of lines and text, which does not contain tonal or shaded areas.		TIFF, JPEG	RGB, Bitmap	900 - 1200 dpi
Halftone:	A continuous tone photograph, which contains no text.		TIFF, JPEG	RGB, Grayscale	300 dpi

Combination:	Image contains halftone + text or line art elements.		TIFF, JPEG	RGB, Grayscale	600 - 900 dpi
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Chemical Structures

Chemical structures should be prepared using ChemDraw or a similar program according to the guidelines given below:

Drawing settings: chain angle, 120° bond spacing, 18% of width; fixed length, 14.4 pt; bold width, 2.0 pt; line width, 0.6 pt; margin width 1.6 pt; hash spacing 2.5 pt. Scale 100% Atom Label settings: font, Arial; size, 8 pt.

Assign all chemical compounds a bold, Arabic numeral in the order in which the compounds are presented in the manuscript text. Figures containing chemical structures should be submitted in a size appropriate for incorporation into the manuscript.

Legibility

Figures must be legible. Check the following:

The smallest visible text is no less than 8 points in height, when viewed at actual size.

Solid lines are not broken up.

Image areas are not pixilated or stair stepped.

Text is legible and of high quality.

Any lines in the graphic are no smaller than 2 points width.