



Science Signaling Instructions for Authors of Research Articles (Initial Submission)

Scope: *Science Signaling* publishes high-impact research articles pertaining to the general area of cell signaling. Signal transduction encompasses aspects of various disciplines in the biological sciences, including molecular biology, development, immunology, neuroscience, microbiology, physiology, medicine, pharmacology, biochemistry, cell biology, bioinformatics, and systems biology. Papers may deal with any aspect of this interdisciplinary field and are expected to present a major research finding of broad significance. They should substantially advance our understanding of the mechanisms underlying cellular responses to external or internal cues, and refine current views of these signaling processes.

Format: Research Articles may be either short or long based on the number of figures and tables and length of text. For short-format articles, manuscripts should be 3000 to 5000 words with 2 to 4 figures. For long-format articles, manuscripts should be 5000 to 7000 words with 5 to 7 figures. All Research Articles should include an Abstract and the following sections: Introduction, Results, Discussion, Materials and Methods, References and Notes. Supplementary Material is permitted but should be limited to information that is not essential to the understanding and evaluation of the research presented in the paper. All data must be shown, references to unpublished results or data not shown are not permitted.

Use double spacing throughout the text, tables, figure legends, and references and notes. Electronic files should be formatted for U.S. letter paper. Technical terms should be defined. Symbols, abbreviations, and acronyms should be defined the first time they are used. All tables and figures should be cited in numerical order.

Titles should be no more than 135 characters (including spaces).

One-sentence summaries capturing the most important point should be submitted for all papers.

Authors and their affiliated institutions, linked by superscript numbers, should be listed beneath the title on the opening page of the manuscript.

Abstracts explain to the general reader why the research was done and why the results are important. The abstract should present background information to convey the context of the research, give a general idea of the methodology used, describe the results, and draw general conclusions. The Abstract is distinct from the main body of the text, and thus should not be the only source of background information critical to understanding the manuscript. Please do not include citations or undefined abbreviations in the Abstract. The preferred length of Research Article abstracts is 125 words or fewer, but a 250-word maximum is allowed for submission.

Introduction: The manuscript should start with a brief introduction describing the paper's significance. The introduction should provide sufficient background information to make the article intelligible to readers in other disciplines, and sufficient context that the significance of the experimental findings is clear.

Results: The results should describe the experiments performed and the findings observed. The results section should be divided into subheadings to delineate different experimental themes. Subheadings should either be all phrases or all complete sentences. All data must be shown either in the main text or in the Supplementary Materials and references to unpublished materials are not allowed.

Discussion: The discussion describes the conclusions that can be drawn from the results, as well as the significance and implications of the research.

Materials and Methods: The materials and methods should provide sufficient detail to allow replication of the results (standard methods may be referenced without a detailed description).

Headquarters

1200 New York Avenue, NW, Washington, DC 20005 USA Tel: +1 202 326 8949 Fax: +1 202 408 9697
Published by the American Association for the Advancement of Science

References and Notes are numbered in the order in which they are cited, first through the text, and then through the figure and table legends. Each reference should have a unique number; do not combine references or embed references in notes. Do not use *op. cit.* or *ibid.*

Acknowledgments, including complete funding information, accession numbers, and any information related to authorship conflict of interest, should be gathered into the last numbered reference.

See *Science Signaling Citation Style* below for details of citation style.

Tables should be included after the references and should supplement, not duplicate, the text. The first sentence of the table legend should be a brief descriptive title. Every vertical column should have a heading, consisting of a title with the unit of measure in parentheses. Units should not change within a column.

Figures should be submitted as part of the online submission or, if necessary for large files only, on a CD. See *Instructions for the Electronic Submission of Text and Figures* below for allowable formats for submission and information on preparing art.

Graphs should be labeled on the ordinate and abscissa with the parameter or variable being measured, the units of measure, and the scale. Scales with large or small numbers should be presented as powers of 10. Simple solid or open symbols reduce well. Avoid the use of light lines and screen shading. Instead, use black-and-white, hatched, and cross-hatched designs for emphasis. Use scale bars in place of, or in addition to, magnifications. When figures are assembled from multiple gels or micrographs, a line or space should indicate the border between two original images. No part of a figure may be selectively manipulated.

Units of measure should be given in SI units. If measurements were made in English units, give metric equivalents.

Figure legends should be double-spaced in numerical order. The figure title should be given as the first line of the legend. No single legend should be longer than ~200 words. Nomenclature, abbreviations, symbols, and units used in a figure should match those used in the text.

Supplementary Materials (SM) should be restricted to information that is not essential to the understanding and evaluation of the research presented in the paper. Large data sets and supplemental movies may be included in the SM. The titles of the Supplementary Materials items should be listed immediately before the References section. Please note that audio and video files cannot be submitted through the online submission system. Please contact the editors at sciencesignalingeditors@aaas.org regarding submission of such file types.

Statistical Analysis must be fully described in the manuscript and appropriate to the data analyzed. Data with a non-normal distribution or multiple comparisons should not be analyzed with t-tests. For guidance on selecting an appropriate statistical test, please consult a statistician or statistics textbook.

Article Publication Fees

Starting in 2010, figure processing fees will be assessed for Research Articles. There is no cost to have a manuscript evaluated.

Headquarters

1200 New York Avenue, NW, Washington, DC 20005 USA Tel: +1 202 326 8949 Fax: +1 202 408 9697
Published by the American Association for the Advancement of Science



Author Checklist for *Science Signaling* Research Articles

Are all authors listed correctly along with their affiliations and the corresponding author indicated?	
Have you included a one-sentence summary of your paper?	
Have you included an Abstract that does not include any cited references?	
Have you defined all symbols, abbreviations, and acronyms?	
Have you included legends for all figures and tables?	
Has all data been included (no data not shown and no citations to unpublished results)?	
Are all statistical tests described completely?	
Are the references complete? Each citation should include full article title, journal title, journal volume, year of publication, and first and last page. Please include all authors (do not use et al.).	

General Instructions for the Electronic Submission of Text and Figures

Please submit the text and figures through the *Science Signaling* Electronic Manuscript Submission Website (<http://www.submit2scisignal.org>). Simply choose the option "I want to submit a new manuscript to *Science Signaling*".

If you have files that cannot be submitted through the electronic submission site, please email the *Science Signaling* editors at sciencesignalingeditors@aaas.org after you have submitted the main part of the manuscript electronically. Please include the Web Submission number that you will receive from the submission site in your email.

For initial submission, we prefer that the text and figures are submitted as a single collated PDF, however details regarding other allowable file formats are described below. Text and figure files that are not submitted as PDF will be converted to PDF for evaluation. Information about how to save in the acceptable formats can be found on the instructions for authors of *Science* manuscripts (http://www.sciencemag.org/about/authors/prepare_prep_init.dtl#formats) and includes information about properly saving Word 2007 files and TeX and LaTeX files. Please send only one manuscript text file; figures should be either included in the text file or uploaded separately.

The maximum total file size for each manuscript submission is 6 MB (including figures and supplementary material) when using the electronic submission form. If larger figure files or supplementary material files are necessary, please contact the editors at sciencesignalingeditors@aaas.org.

Supplementary Materials files may include various files as described in detail below; however only those formats allowed for submission of text and figures are possible for submission through the online submission site. Please contact the editors at sciencesignalingeditors@aaas.org for details about submission of files in other formats (as described in detail below).

Detailed Instructions for Preparing Your Electronic Files

For authors not submitting a single PDF for the manuscript text and figures, please follow the guidelines below. Format all pages to 8.5" × 11" (standard U.S. letter-sized paper) with at least 1.25-inch or 3-cm margins. This can be done using the "Page Setup" command in most word processors and graphics programs. Please reformat pages from A4 to this size with these margins. PostScript files should be formatted for standard U.S. letter-sized paper. This will ensure that if we need to print a hard copy of your paper, it is formatted correctly.

Headquarters

1200 New York Avenue, NW, Washington, DC 20005 USA Tel: +1 202 326 8949 Fax: +1 202 408 9697
Published by the American Association for the Advancement of Science

Text

- Include text, references, figure captions, and all tables as part of a single text file.
- For best conversion, we recommend use of Times and Symbol fonts only.
- *Science Signaling* cannot accept files in Word 2007's .docx format.
- Allowable formats for text include .pdf, .ps, .doc, .rtf, .wpd, .rtf, and .txt.

Graphic files and figures

We prefer figures for initial submission to be submitted as PDF. Figures prepared or embedded in Microsoft Word or PowerPoint are not allowed. Allowed figure formats include:

- PDF
- EPS
- AI
- PSD
- TIF
- PICT
- JPG
- GIF

Supplementary Materials

If the file size will not exceed 6 MB and it can be done easily, please include supplementary text, tables, figures, and references at the end of the main manuscript file, in a separate section titled "Supplementary Materials." Alternatively, Supplementary Materials can be included as a separate file that can be uploaded as the final figure file within the 6 MB upload limit. Only the file types listed above that are allowable for figures and text can be uploaded through the online submission system.

Please contact the editors at sciencesignalingeditors@aaas.org regarding submission of Supplementary Materials that exceeds the 6 MB limit or that involves file formats other than those we allow for WWW submission (such as video or audio files). For reference, please include the Web submission number you received during the upload of your paper on the correspondence regarding files that exceed the limit. Note that we cannot review your paper until we have received the Supplementary Materials.

Acceptable formats for videos are Quicktime, MPEG, and Flash. Keep videos short and the display window small to minimize the file size of the video. Supply caption information with the videos. Edit longer sequences into several small pieces with captions specific to each video sequence. Please note that audio and video files cannot be submitted through the online submission system. Please contact the editors at sciencesignalingeditors@aaas.org regarding submission of such file types.

Naming Files

Our electronic submission form will only accept files with the correct extension designating the file type. Name all files starting with the last name of the first author. Follow this by an indication of whether this is the text or the figure name. The file name ends with the extension. Unacceptable file names include smithfig1C.ps (each figure should be complete, not broken into parts) smithtext (all files should end in a file extension)

Examples of acceptable file names:

- Smithtext.doc
- Smithtextfigs.pdf
- Smithfig1.eps
- Smithtextfigs.ps
- Smithms.pdf
- Smithsupp.pdf

Headquarters

Citation style

Science Signaling uses a complete citation format that includes all authors, full titles of journal articles, the journal abbreviation, the volume, the first and last page, and the year of publication. The absolute formatting (what is bold and what is italic) is less important than having a complete citation for each journal article cited.

References and notes are numbered in the order in which they are cited, first through the text, then through the table and figure legends. List a reference only one time. Any references to in-press manuscripts or personal communications should be given a number in the text and placed, in correct sequence, in the references and notes. Such references should not, however, be used to support claims or conclusions. We do not allow references to unpublished data in support of claims or conclusions; necessary data should be included in the manuscript, its Supplementary Materials, or an approved archival database. The abbreviations for journal names are taken from the *Bibliographic Guide for Editors and Authors (BGEA)* or *Serial Sources for the BIOSIS Data Base (BIOSIS)*, a more recent publication. When in doubt, provide the journal's complete name. Spell out cities that are listed after a journal name: *Acta Zool. (Stockholm)*. Do not use *op. cit.*, *ibid.*, 3-m dashes, en dashes, or *et al.* (in place of the complete list of authors' names). For author names with Jr. or 2nd, etc. see example number 4 in the *Journals* section. Publisher's names are given in shortened form. "Press" and the like are usually dropped, except Academic Press ["Academic" is an adjective], University Park Press, CRC Press, MIT Press, and Cambridge Univ. Press [for university presses, to distinguish them from the university itself]. Only one publisher's location is needed. A few world-renowned cities (for example, Amsterdam, London, Philadelphia, Chicago, New York, Baltimore) can be listed without state or country; less well-known cities and those with names that could be confused take state abbreviations (Cambridge alone for the city in the U.K., but Cambridge, MA). Inclusive pages numbers or chapter number must be given when specific articles are referred to within an edited volume.

Please use full citations in the following format:

Journals

1. E. J. Neer, T. Kozasa, Sites for *G α* binding on the G protein β subunit overlap with sites for regulation of phospholipase C β and adenylyl cyclase. *J. Biol. Chem.* **273**, 16265-16272 (1998).
2. D. J. Mangelsdorf, C. Thummel, M. Beato, P. Herrlich, G. Schütz, K. Umesono, B. Blumberg, P. Kastner, M. Mark, P. Chambon, R. M. Evans, The nuclear receptor superfamily: The second decade. *Cell* **83**, 835-839 (1995).
3. J. J. Tesmer, R. K. Sunahara, A. G. Gilman, S. R. Sprang, Crystal structure of the catalytic domains of adenylyl cyclase in a complex with Gs·GTP- γ -S. *Science* **278**, 1907-1916 (1997).
4. J. D. Brown, M. R. DiChiara, K. R. Anderson, M. A. Gimbrone, Jr., J. N. Topper, MEKK-1, a component of the stress (stress-activated protein kinase/c-Jun N-terminal kinase) pathway, can selectively activate Smad2-mediated transcriptional activation in endothelial cells. *J. Biol. Chem.* **274**, 8797-8805 (1999).
5. J. Burton, C. K. Goldman, P. Rao, M. Moos, T. A. Waldmann, Association of intercellular adhesion molecule 1 with the multichain high-affinity interleukin 2 receptor. *Proc. Natl. Acad. Sci. U.S.A.* **87**, 7329-7333 (1990).
6. A. Miyawaki, R. Tsien, Monitoring protein conformations and interactions by fluorescence resonance energy transfer between mutants of green fluorescent protein. *Methods Enzymol.*, in press.
7. F. Watson, R. S. Kiernan, D. G. Deavall, A. Varro, R. Dimaline, Transcriptional activation of the rat vesicular monoamine transporter 2 promoter in gastric epithelial cells: Regulation by gastrin. *J. Biol. Chem.* Papers in Press, published 2000 as 10.1074/jbc.M006697200.
8. K. L. Clark, P. B. Larsen, X. Wang, C. Chang, Association of the *Arabidopsis* CTR1 Raf-like kinase with the ETR1 and ERS ethylene receptors. *Proc. Natl. Acad. Sci. U.S.A.* **95**, 5401-5406 (1998) [published erratum appears in *Proc. Natl. Acad. Sci. U.S.A.* **95**, 9060 (1998)]. [style for published erratum]
9. L. C. Cantley, PI3K pathway. *Sci. Signal.* (Connections Map in the Database of Cell Signaling, as seen February 2001), http://www.stke.org/cgi/cm/CMP_6557. [style for citing a pathway in the Database of Cell Signaling at *Science Signaling*]

Headquarters

10. H. R. de Jonge, B. Hogema, B. C. Tilly, Protein N-myristoylation: Critical role in apoptosis and salt tolerance. *Sci. STKE* **2000**, pe1 (2000). [style for citing a *Science's STKE* paper; note: volume and year are the same]

11. E. Canalis, Notch signaling in osteoblasts. *Sci. Signal.* **1**, pe17 (2008). [style for citing a *Science Signaling* article published following title change in January 2008]

– When published in *Science Express* but not yet in print:

1. W. Jones, B. Smith, Location and function of DNA binding proteins. *Science* 20 December 2000 (10.4444/science.1054678).

– When published in *Science Express* and in print:

1. W. Jones, B. Smith, Location and function of DNA binding proteins. *Science* **252**, 1056 (2001); published online 20 December 2000 (10.4444/science.1054678).

Technical reports

1. D. E. Shaw, *Technical Report UCUCS-29-82* (Columbia University, New York, 1982).

2. F. Press, *A Report on the Computational Needs for Physics* (National Science Foundation, Washington, DC, 1981). [unpublished or access by title]

3. *Assessment of the Carcinogenicity and Mutagenicity of Chemicals* (WHO Technical Report Series No. 556, World Health Organization, Geneva, Switzerland, 1974).

Proceedings

1. *Title of Symposium Published as a Book*, sponsoring organization, city and state of meeting, inclusive dates and year (publisher, publisher's city and state, year).

Paper presented at a meeting (not published)

1. M. Konishi, paper presented at the 14th Annual Meeting of the Society for Neuroscience, Anaheim, CA, 10 to 14 October 1984. [sponsoring organization should be mentioned if it is not part of the meeting name]

Theses and unpublished material

1. B. Smith, thesis, Georgetown University, Washington, DC (1973).

2. J. A. Norton, unpublished material.

Books

1. A. M. Lister, *Fundamentals of Operating Systems* (Springer-Verlag, New York, ed. 3, 1984). [third edition]

2. J. B. Carroll, Ed., *Language, Thought and Reality, Selected Writings of Benjamin Lee Whorf* (MIT Press, Cambridge, MA, 1956).

3. R. Davis, J. King, in *Machine Intelligence*, E. Acock and R. Michie, Eds. (Wiley, New York, 1976), vol. 8, chap. 3.

4. D. Curtis, in *Clinical Neurology of Development*, B. Walters, Ed. (Oxford Univ. Press, New York, 1983), pp. 60-73.

5. *Principles and Procedures for Evaluating the Toxicity of Household Substances* (National Academy of Sciences, Washington, DC, 1977). [organization as author and publisher]

Headquarters

1200 New York Avenue, NW, Washington, DC 20005 USA Tel: +1 202 326 8949 Fax: +1 202 408 9697

Published by the American Association for the Advancement of Science