The Journal of Pharmacology and Experimental Therapeutics

Instructions to Authors

[Revised post December 7, 2016]

NOTE: Read carefully as these Instructions were recently revised.

Scope of Submitted Manuscripts

The *Journal* invites for review original papers dealing with interactions of chemicals with biological systems. All aspects of pharmacology and therapeutics are within the scope of the *Journal*. Research papers should provide rigorous quantitative analyses and/or new insights on pharmacological mechanisms. All manuscripts are initially screened by the Editorial Board to ensure that each manuscript meets the above criteria before peer-review. Manuscripts that provide descriptive case reports, lack complete dose-response determinations, or do not communicate novel findings are not acceptable and will be rejected without peer review. Manuscripts dealing primarily with new methods will be reviewed only if data are presented showing that new or more reliable pharmacological information has been obtained with their use. The *Journal* will also consider for publication manuscripts that refutes previous findings published in the journal. Such manuscripts should provide a rigorous and thorough investigation of the topic at hand, and should independently advance our understanding of the field.

The Journal also invites authors to submit minireviews (4,000 – 6,000 words) that provide concise perspectives, overviews, or commentaries of contemporary or emerging topics in pharmacology. Submission procedures and organization of minireviews are described in further detail below.

Submission of Manuscripts

All manuscripts submissions must be made through the journal's online manuscript system at http://submit-jpet.aspetjournals.org. Submissions mailed to the editorial office will not be processed.

If you are using the system for the first time, you must create an account before you can submit a paper. To do so, please click "Create a new account". Complete instructions for using the online manuscript system are provided in the Author Area; click on "Help with Online Submission".

After submission of your research manuscript, please mail or fax (credit cards only) the items detailed below in a) and b) to *JPET*, ASPET Journals Department, 9650 Rockville Pike, Bethesda, MD 20814-3995; telephone: 301-634-7063; fax: 301-634-7158.

a) The manuscript handling fee is waived for manuscripts where any author is an ASPET member in good standing. A check for $75 for the manuscript handling fee (checks must be in U.S. dollars, drawn on a U.S. bank, MICR encoded at the bottom of the check, and payable to ASPET). VISA, MasterCard, Discover, and American Express credit cards are also accepted. When paying by credit card, provide the cardholder's name, complete card number, expiration date, and include the three digits located on the back of a Visa, MasterCard, or Discover card in the signature box or the four digits on the front of the American Express card above the raised numbers. Please state whether the card is Visa, MasterCard, Discover or American Express (no other cards are acceptable), and include the cardholder's signature. Wire transfers are not permitted.

b) A completed copy of the Authorship Responsibility, Financial Disclosure, and Chemical Structure Statement Form and Copyright Transfer Form at http://bit.ly/2gbAhAO signed by all authors. (Alternatively, see the Open Access Option below.) Submission of a manuscript amounts to assurance that it has received proper clearance from the author's company or institution, that it has not been copyrighted, published, or accepted for publication elsewhere, that it is not currently being considered for publication elsewhere, and that it will not be submitted elsewhere while under consideration by the *Journal of Pharmacology and Experimental Therapeutics*. Indicate all potential conflicts of interest.

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Manuscripts must be in English, typewritten using **Arial** or **Times New Roman** fonts only, and double-spaced throughout, including references, tables, and figure legends, with at least 1 inch (25 mm) margins. Authors for whom English is not their native language are encouraged to have their manuscripts reviewed for grammar, vocabulary, syntax, and punctuation. Many English-language editing services can be found through an online search and are available for a fee. ASPET does not endorse or recommend any particular service.

PDF-Only Submission

Once manuscript preparation is complete, convert the text and figure files (but not supplemental data) into a single PDF with a file size of less than **250 MB**. PDF preparation can be done by using Adobe Acrobat, which is available for purchase http://adobe.com/products/main.html. Microsoft Word also has a "Save As" feature that will allow you to save a file in PDF format. (PC versions 2007 and higher, Macintosh 2004 and higher.) Figure resolution may be reduced if this option is used.

Authors are responsible for ensuring the accuracy and quality of the PDF. **ALL SUBMISSIONS, INCLUDING REVISIONS MUST BE IN PDF FORMAT.** This file, along with any supplementary files, must be uploaded into the journal's online manuscript system at http://submit-jpet.aspetjournals.org/.

Source files (manuscript, figure files) will be requested only at time of acceptance.

Requirements

- File size must be less than **250 MB**.
- Text and figures must be in one file with figures at the end of the file.
- File must not contain supplemental data or supplemental legends. These must be uploaded separately.
- File name should be one word with no spaces and a .PDF file extension (e.g., MolPharm.pdf).
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- Do not place restrictions on the extraction of content or modification of the PDF (this will disable reference extraction).

Similarity Check (formerly known as CrossCheck)

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Preprint Servers

Manuscripts deposited in a preprint server may be submitted to *JPET*. A footnote must be included noting that the manuscript has been deposited in a preprint server.

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ASPET does not offer refunds of open access fees. If an error related to open access is identified in a published article (e.g., missing Creative Commons license, article not freely accessible, or article not deposited with PubMed Central), ASPET will correct the error.

Organization of the Manuscript

Manuscripts must be in English, typewritten using **Arial** or **Times New Roman** fonts only, and double-spaced throughout, including references, tables, and figure legends, with at least 1 inch (25 mm) margins.

Manuscripts should contain the following sections **in the order listed**. Each section should be titled and begin on a new page. All pages, excluding figure pages, should be numbered consecutively.

1. Title Page. This should contain the complete title of the article, the names of all authors, and the primary laboratory of origin. Titles should be concise and accurately reflect the content of the paper. Affiliation should be indicated by author initials only. Financial support for the research should not be on this page but indicated as an unnumbered footnote to the title and included with other footnotes on a separate page following the *References* section.

2. Running Title Page. The running title page should contain the following:

a) A running title, which conveys the sense of the full title (not to exceed 60 characters, including spaces and punctuation). Commonly used abbreviations (e.g., "ATP", "Ach", etc.) may be used.

b) The name, address, telephone and fax numbers, and e-mail address of the corresponding author. Only one author may be designated as the corresponding author. The e-mail address will also be used as a hypertext link in the paper. It is possible to list two corresponding authors on the published manuscript. In such cases, the relative roles of the two corresponding authors need to be explained in the cover letter that accompanies submission. Nonetheless, a ***single*** author needs to be designated at the time of submission who will be responsible for all correspondence during review and processing of the manuscript. The additional corresponding author should be listed on the manuscript's running title page only and not entered into the online manuscript submission system.

c) The number of text pages, number of tables, figures, and references, and the number of words in the *Abstract*, *Introduction*, and *Discussion* (each item should be placed on a separate line).

d) A list of nonstandard abbreviations used in the paper, with abbreviations listed in alphabetical order. A list of standard abbreviations is available at http://bit.ly/2gbenCB. The use of abbreviations should be minimized to enhance readability and comprehension of the text.

e) A recommended section assignment to guide the listing in the table of contents. Section options are:

Behavioral Pharmacology
Cardiovascular
Cellular and Molecular
Chemotherapy, Antibiotics, and Gene Therapy
Drug Discovery and Translational Medicine
Endocrine and Diabetes
Gastrointestinal, Hepatic, Pulmonary, and Renal
Inflammation, Immunopharmacology, and Asthma
Metabolism, Transport, and Pharmacogenomics
Neuropharmacology
Toxicology
Other

3. Abstract. The abstract should concisely present the hypothesis being tested, general methods, results, and conclusions. Abstracts of more than 250 words will not be accepted. A word is one or more characters bounded by white space. The abstract must be a single paragraph. IMPORTANT: If your manuscript is accepted, the abstract entered into the online metadata form will appear online EXACTLY the way you enter it during the submission process. Please make sure to code all special characters, including sub- and superscripts, using the codes available from the online submission system. **For revisions, update the abstract, if changed from the original.**

4. Visual Abstract. In addition to a text abstract, authors may submit a visual or graphic abstract that is intended to catch a reader's attention and provides a quick visual impression of the gist of the article. The graphic must be 440 pixels wide by 350-365 pixels tall, saved as RGB. TIFF or PDF file formats are preferred. Visual abstracts submitted in Word or PowerPoint are acceptable but should be avoided if possible. Follow the image preparation guidelines given below for figures. The visual

abstract will appear below the text abstract in the abstract and HTML full-text views. A smaller version of the image, converted from the authors' file by our compositor, will appear on the table of contents.

A visual abstract should use color, be simple and clear, be entirely original (reprinted images and figures will not be accepted), and should not include an image of any person, living or dead. Trademarked items (e.g., company logos, images, and products) may not be used. The image should be labeled "Visual Abstract," similar to labeling a figure for identification by reviewers and for use in the "Fast Forward" version of the paper.

5. Introduction. This section must contain a clear statement of the aims of the work or of the hypotheses being tested. A brief account of the relevant background that supports the rationale of the study should also be given. The length of the *Introduction* should not exceed 750 words.

6. Materials and Methods. Authors must affirm that original studies in animals have been carried out in accordance with the Guide for the Care and Use of Laboratory Animals as adopted and promulgated by the U.S. National Institutes of Health, and were approved by the Institution's Animal Care and use Committee or local equivalent. For investigations involving human subjects, authors must affirm that they have been carried out in accordance with the Declaration of Helsinki and approved by the Institutional Review Board(s) or equivalent ethics committee. For multisite studies, all IRBs must be in agreement.

This section should contain explicit, detailed and concise descriptions of all new methods or procedures employed. Authors should review the NIH Principles and Guidelines for Reporting Preclinical Research (www.nih.gov/about/reporting-preclinical-resarch.htm). Whereas modifications of previously published methods must be described, commonly used procedures require only a citation of the original source. Descriptions of methods must not only be sufficient to enable the reader to judge the accuracy, reproducibility, blinding, and reliability of the experiment(s) but also to be able to reproduce the results. The name and location (city and state or country) of commercial suppliers of chemicals, reagents, and equipment must be given. For biological materials, give the source, catalog, and batch numbers (where applicable). For antibodies, also provide references describing their selectivity if this is not assessed in the current paper, and dilutions used.

Sources of compounds, reagents, and equipment not available commercially should be identified by name and affiliation here or in the *Acknowledgments* section. The chemical identity or structure of novel drugs or research compounds must be provided. The structures of novel biologic agents must also be provided, at the level of current knowledge. Report the source of cell lines and, if known, their authentication and mycoplasma contamination status.

For animal experiments, authors should report the source, species, strain, sex, age, randomization, and husbandry of the animals. Report the strain characteristics of genetically engineered animals including generations of back-crossing, or percentage of contributing strains if genetic analysis was performed.

In vivo studies and studies using primary cultures of cells or tissues from animals or humans must state the sex of the experimental subjects or tissue donors in the Materials and Methods section. The designations "mixed" or "unknown" should be used as appropriate when the sex cannot be determined (e.g., embryonic or early postnatal cultures, cell lines immortalized from a mixed culture, previously completed experiments for which sex was not documented).

7. Results. Contained in this section are the experimental data, with no discussion of their significance. Results are typically presented in figures or tables, with no duplication of information in the text. If a table or figure includes less than four values, the data should be presented in the text rather than as a separate table or figure. Magnitudes of variables reported should be expressed in numerals. Generally, units are abbreviated without punctuation and with no distinction between singular and plural forms (e.g., 1 mg, 25 mg). Data should be presented in a quantitative manner where possible, with descriptive statistical measures Report not only the statistical tests used but also the exact value of N for each group. Report how often each experiment was performed.

Sufficient information about sample collection must be provided to distinguish between independent biology data points and technical replicates. For animal or human studies, authors are encouraged to use a power analysis to computer an appropriate sample size during study design and should report the results. If any data or subjects were excluded, clearly state the criteria that were used. Statistical probability (P) in tables, figures, and figure legends should be expressed as $*P < 0.05$, $**P < 0.01$, and $***P < 0.001$. For second comparisons, one, two, or three daggers may be used. For multiple comparisons within a table, footnotes italicized in lower case, superscript letters are used and defined in the table legend.

All data upon which the conclusion of the paper rely must be made available upon request (where ethically appropriate) during consideration of the manuscript and to members of the scientific community thereafter.

8. Discussion. Conclusions drawn from the results presented are included in this section. Whereas speculative discussion is allowed, it must be identified as such and be based on the data presented. The *Discussion* must be as concise as possible and should not exceed 1,500 words.

9. Acknowledgments. The *Acknowledgments* section is placed at the end of the text. Personal assistance is noted here. Financial support is acknowledged as an unnumbered footnote to the title. See Section 11, Footnotes.

10. Authorship Contributions. Each author's contributions to the manuscript as detailed on the Authorship Responsibility, Financial Disclosure, and Chemical Structure Statement Form are to be given in this section. All of the appropriate individuals must be named as authors of the work. Each of the applicable authorship categories from the form is to be listed followed by the last name of each respective author (use first initials when multiple authors share a last name). For example:

Participated in research design: Sung, Smith, Gupta, and Abel.

Conducted experiments: Sung, Smith, Gupta, J.D. White, S.T. White, and Abel.

Contributed new reagents or analytic tools: Sung, J.D. White, and S.T. White.

Performed data analysis: Sung, Gupta, J.D. White, and Abel.

Wrote or contributed to the writing of the manuscript: Gupta, J.D. White, S.T. White, and Abel.

11. References. References are cited in the text by giving the first author's name (or the first and second if they are the only authors) and the year of publication (e.g., Ruth and Gehrig, 1929; McCarthy, 1952; or Kennedy et al., 1960). In the reference list, the references should be arranged alphabetically by author and not numbered. The names of all authors should be given in the reference list. If reference is made to more than one publication by the same author(s) in the same year, suffixes (a, b, c, etc.) should be added to the year in the text citation and in the references list. Journal titles should be abbreviated as given in the

National Center for Biotechnology Information U.S. National Library of Medicine catalog at http://bit.ly/2h3INDC. References to personal communications, unpublished observations, and papers submitted for publication are given in parentheses at the appropriate location in the text, not in the list of references. Only papers that have been officially accepted for publication may be cited as "in press" in the reference list. The authors are responsible for the accuracy of the references. The format for journal article, chapter, book, and publish-ahead-of-print journal article references is as follows:

Fricks IP, Maddileti S, Carter SRL, Lazarowski ER, Nicholas RA, Jacobson KA, and Harden TK (2008) UDP is a competitive antagonist at the human P2Y14 receptor. *J Pharmacol Exp Ther* **325:** 588-594.

Kappas A (2002) Development of heme oxygenase inhibitors for the prevention of sever jaundice in infants: studies from laboratory bench to newborn nursery, in *Heme Oxygenase in Biology and Medicine* (Abraham NG, Alam J, and Nath KA eds) pp 3-17, Kluwer Academic/Plenum Publishers, New York.

Wilson JH and Hunt T (2008) *Molecular Biology of the Cell: A Problems Approach*, 5th ed. Garland Science, New York.

Hanada K, Ikemi Y, Kukita K, Mihara K, and Ogata H (2008) Stereoselective first-pass metabolism of verapamil in the small intestine and liver in rats. *Drug Metab Dispos* doi: 10.1124/dmd.107.020339.

12. Footnotes. Footnotes should be listed on a separate page and presented in the following order:

a) Unnumbered footnote providing the source of financial support. This information must be in the form of a sentence with the name of the funding agency written out in full. Research funded by the NIH, the Wellcome Trust, the Howard Hughes Medical Institute, and the Research Councils UK and its agencies **MUST** include the grant number in square brackets:

This work was supported by the National Institutes of Health National Institute of Diabetes and Digestive and Kidney Diseases [Grant XXXX].

Multiple grant numbers should be separated by a comma and a space. Where the research was supported by more than one agency, the different agencies should be separated by a semi-colon with "and" before the final funder:

This work was supported by the Wellcome Trust [Grants XXX, YYY]; the National Institutes of Health National Cancer Institute [Grants ZZZ, AAA]; and the Howard Hughes Medical Institute [Grant BBB].

Funding from these agencies may not be cited without a grant number.

Articles funded by the NIH, the Wellcome Trust, HHMI, and the Research Councils UK will be deposited with PubMed Central ONLY when such funding is cited.

When one or more authors are NIH employees, the following footnote must be included:

This research was supported [in part] by the Intramural Research Program of the National Institutes of Health [name of institute].

b) Unnumbered footnote providing thesis information, citation of meeting abstracts where the work was previously presented, etc.

c) The name and full address (with street address or P.O. box and postal code) and e-mail address of person to receive reprint requests.

d) Numbered footnotes, using superscript numbers, beginning with those (if any) to authors' names and listed in order of appearance.

13. Figure Legends. Figures are numbered consecutively with Arabic numerals and listed in order rather than one per page. Legends must provide sufficient explanation for the reader to understand the figure independent of the text. Authors should provide details regarding group sizes, replicates, and the statistical analysis used for all experiments shown in each figure in the legends.

14. Tables. Each table must be double-spaced and begin on a separate page, each page numbered continuous with the rest of the manuscript. Tables are numbered consecutively with Arabic numerals. A brief descriptive title is provided at the top of each table. General statements about the table follow the title in paragraph form. Footnotes to tables are referenced by italicized, lower case, superscript letters and defined beneath the table. Acceptable formats for tables are Word and WordPerfect.

15. Figures.

Image Manipulation: Figures in manuscripts considered for acceptance will be examined for evidence of manipulation. While certain modifications of primary data are often needed for clarity and/or brevity, image manipulation for deceptive purposes, to unfairly enhance or eliminate or otherwise obscure data, are grounds for rejection and may constitute misconduct. Inappropriate image manipulation will result in rejection of the manuscript. Suspected misconduct may be reported to the authors' institution(s) and funder(s). No specific feature within an image may be enhanced, obscured, moved, removed, or introduced. The groupings of images from different parts of the same gel, or from different gels, fields, or exposures must be made explicit by the arrangement of the figure (e.g., using dividing lines or ensuring white space separates lanes from different gels) and in the text of the figure legend. Adjustments of brightness, contrast, or color balance are acceptable if they are applied to every pixel in the image and as long as they do not obscure, eliminate, or misrepresent any information present in the original, including the background. Nonlinear adjustments (e.g., changes to gamma settings) must be disclosed in the figure legend. This policy is consistent with many leading peer-reviewed journals publishing biological data. For more detailed information, see the "Guidelines for Best Practices in Image Processing" at http://bit.ly/2gbA5Sf from the Office of Research Integrity. *[With thanks to Rockefeller Univ. Press.]*

Figure Preparation: If your manuscript is accepted for publication, you will be required to provide source files prepared according to the following instructions.

To publish the figures in your article with the highest quality, it is important to submit digital art that conforms to the appropriate resolution, size, color mode, and file format. Doing so will help to avoid delays in publication and maximize the quality of images. These instructions are available as a PDF file with screen shots and example images at http://bit.ly/2h3I19s.

Sizing and Preparation: Submit figures at their final publication size; do not scale figures (printed 1:1). Most figures should fit within a single column. See the table below for allowable widths. The height of all figures must be ≤ 9.375 inches / 24 cm / 56.5 picas.

Columns	Inches	Centimeters	Picas
1	≤ 3.5	≤ 8.9	≤ 21
2	≤ 7.125	≤18.2	≤ 43

All panels of a multipart figure should be provided in the same file. Identify figure panels with capital letters. If symbols are not explained on the face of the figure, only standard print characters may be used. Include figure titles in the legend and not on the figure itself. Photomicrographs and electron micrographs must be labeled with a magnification calibration in micrometers and Angstrom units. A statement concerning the magnification must appear in the figure legend.

Labeling and Font Usage: Please use the same font for all figures in your manuscript, and use a standard font such as Arial, Helvetica, Times, Symbol, Mathematical Pi, and European Pi. Do not use varying letter type sizes within a single figure; use the same size or similar sizes throughout. The preferred font size is 8 points; the minimum font size is 6 points. Embed all fonts used in vector files. In Illustrator, either convert text to outlines or check the box that reads **Embed Fonts** when saving the file.

Number each figure at the bottom, outside the image area. Do not put a box around the figure.

Two Categories of Digital Artwork:

- **Raster Images** (i.e., pixel-based, also called bitmapped images; TIF files support only raster data) or
- **Vector Images** (i.e., object-based; EPS, AI, and PDF files support both vector and raster data).

Vector images are preferred because they have the highest quality and produce the best results in publication. JPEG and GIF are not recommended formats for providing figures.

Resolution and Raster Images: Low-resolution images are one of the leading causes of art resubmission and schedule delays. Submitted rater (i.e., pixel-based) images must meet the minimum resolution requirements. Raster images can be classified as monochrome (line-art), halftone, or combination halftone. TIFF, EPS, PDF, or PNG file formats are preferred.

- **Monochrome (1-bit) images (line-art):** Common examples are graphs and charts made of solid black and white, with no gray values. The suggested minimum resolution for this type of image is 1,000 ppi at publication size.
- **Combination Halftones:** Common examples are color or grayscale figures containing halftone and line art elements. The suggested minimum resolution for this type of image is 600 ppi at publication size.
- **Halftones:** Common examples are color or grayscale figures containing pictures only, with no text or line art. The suggested minimum resolution for this type of image is 300 ppi at publication size.

Color Mode: All color image files must be submitted in their original RGB color. To ensure accurate color in publication when you work with raster images, it is best to use an application that supports ICC profiles, such as Adobe Photoshop. Whatever application you use, be sure to always embed the originating ICC profile when saving the file. This is usually the default behavior. The box to embed the ICC profile is checked by default. Just be sure to leave the box checked. If you are using a different application, please check the documentation to be sure you are properly embedding the ICC profiles.

Vector Graphics: Vector images are typically generated using drawing or illustration programs (e.g., Adobe Illustrator) and are composed of mathematically defined geometric shapes—lines, objects, and fills. Vector graphics are resolution independent and can be enlarged to any size without quality loss.

- **Vector line art:** Common examples are graphs and charts created in illustration programs. It is preferable to have these saved as EPS files, with all fonts embedded or converted to outlines, and graph lines at least 0.25 points thick.
- **Combination line/halftone:** Common examples are color or grayscale figures containing halftone and line art elements. The halftone elements should be processed in Photoshop and the line elements in Illustrator, and the two elements from the two applications should be combined in Illustrator. It is preferable to have these saved as EPS files, with all fonts embedded or converted to outlines, and graph lines at least 0.25 points thick.

Microsoft Office: Figures submitted in Word or PowerPoint are acceptable but should be avoided if possible. Excel files cannot be used. If MS Office is your only choice, please follow these general rules to ensure that the file is properly prepared:

1. Do not use pattern or textured fills in graphics. Instead, use solid fills or percentage screens: these will be effectively maintained as vector data during file conversion. **Note:** A 20% difference in percent screens is most effective for differentiation.
2. Artwork placed within an MS Office application should be of acceptable minimum resolution for print production: 300 ppi for halftones, 600-900 ppi for combinations, and 1,000-1,200 ppi for line art.
3. When inserting pictures/images into files, be sure to select "insert" rather than "insert link." The latter will not properly embed the high-resolution image into the MS Office file.
4. Always embed fonts in your documents. Follow these guidelines for embedding fonts in MS Office documents:
   a. From the file menu, select Save As…
   b. From the **Tools** menu, select **Save Options…**, then check the **Embed Fonts in the file** box.

Authors who do not comply with these guidelines will be asked to resubmit their figures in a print-quality format, which may delay publication.

Schemes should be placed after tables, but before figures. Appendices should be placed after tables and figures.

16. Supplemental Data. Materials that cannot be presented within the body of a manuscript may be published as supplemental data. These materials are subject to the same review process as the rest of the manuscript. Supplemental data must be cited in the text.

The acceptable formats for supplemental data are Adobe PDF, Microsoft AVI video, MPEG movie, and QuickTime video. Files may be compressed using the ZIP® compression utility. Multiple still images, tables, and text must be combined into a single PDF file.

Except for videos, supplemental data must be labeled with the article's authors and title and the journal title. This is to identify the source article of the supplemental data should a reader print the file. The label should be placed at the top of the page. Data supplement pages will be neither edited nor formatted by ASPET. They should be prepared with the reader in mind. For example, legends should appear below figures instead of on separate pages. Text may be single spaced and put in columns for easier reading.

Videos should be submitted in QuickTime 3.0 or higher format and may be prepared on either a PC or Mac computer. All videos should be submitted at the desired reproduction size and length. The legend must be included as a separate file. To avoid excessive delays in downloading the files, videos must be no more than 5 MB in size and 30 to 60 seconds in length. Authors are encouraged to use QuickTime's "compress" option when preparing files to help control file size. Additionally, cropping frames and image sizes can significantly reduce file sizes. Files submitted can be looped to play more than once, provided file size does not become excessive. Authors will be notified if problems exist with videos as submitted and will be asked to

modify them. No editing will be done to the videos at the editorial office. All changes are the responsibility of the author.

Refutations

JPET will consider for publication manuscripts that refute findings previously published in the journal. Such manuscripts should provide rigorous and thorough investigation of the topic at hand and should independently advance our understanding of the field. Contrary evidence that does not by itself advance the field is insufficient to merit consideration as a research article but may be submitted for consideration as a Letter to the Editor.

Reagents and Materials

As a condition of publication, the authors agree to distribute freely to academic researchers for their own use any propagatable reagents and materials (e.g., DNA, antibodies, cell lines, and mouse strains) developed for the published study that are not available from commercial suppliers. Although structures of novel chemicals and their method of synthesis must be disclosed, authors should also make a good-faith effort to meet researchers' requests for such chemicals whenever available quantities allow. Authors are required to make any noncommercial software used in the study available on request or indicate how it can be obtained.

Data Deposition

In all instances described below, sequence accession numbers must be provided in the text of the manuscript. The deposited data must have a release date no later than the date of acceptance, and no data are to be withdrawn or modified following acceptance.

Nucleic Acid and Protein Sequences: Novel nucleic acid and protein sequences must be deposited in the appropriate databases.

Structural Data and Molecular Modeling: For studies including crystallographic data, both the coordinates and structure factor amplitudes must be submitted to the Protein Data Bank, and a validation report from the Protein Data Bank must be provided with the initial submission. For studies involving theoretical/homology models, file(s) in Protein Data Bank format (pdb) for all molecular models used in the manuscript need to be included as supplemental data files. The list of supplemental figure legends must include a caption for each pdb file. The caption will be used as a link to the file from the online supplemental data page. Integrity of the files should and will be checked by the ability of free viewers from (SPDBV, Rasmol) to open and manipulate the model without errors. For NMR structures, the coordinates must be deposited with RCSB and the other restraints to BioMagResBank (BMRB). Data deposited should include resonance assignments and all restraints used in structure determination (NOEs, spin-spin coupling constants, amide exchange rates, etc.) and the derived atomic coordinates for both an individual structure and for a family of acceptable structures.

High-throughput Data: For studies including functional genomics data (e.g., microarray, ChIP seq, RNA-seq, or other high-throughput data), the data must be deposited in a MIAME-compliant database such as GEO (www.ncbi.nlm.nih.gov/geo), ArrayExpress (www.ebi.ac.uk/arrayexpress) or CYBEX (http://cibex.nig.ac.jp/data/index.html).

Drugs

Generic drug names are used in text, tables, and figures. Trade names may be given in parentheses following the first text reference, but should not appear in titles, figures, or tables. Whereas trade names are capitalized, generic or chemical names are not.

The chemical structure and method of synthesis of new compounds must be given or citations to the published structure and synthetic method must be provided of new compounds used in research articles. The form used in calculating concentrations (e.g., base or salt) must be indicated.

Herbal Medicines/Natural Products

Manuscripts describing research on plant or other natural product extracts or preparations must meet the following criteria:

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- The concentration of at least one constituent with pharmacologic or toxicologic significance in the preparation must be reported. (For example, in the case of St. John's Wort, the authors must report the amount of hyperforin in the St. John's Wort used in their study.)
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