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### DESCRIPTION

*Biochemical Pharmacology* publishes original research findings, Commentaries and review articles related to the elucidation of cellular and tissue function(s) at the biochemical and molecular levels, the modification of cellular phenotype(s) by genetic, transcriptional/translational or drug/compound-induced modifications, as well as the pharmacodynamics and pharmacokinetics of xenobiotics and drugs, the latter including both small molecules and biologics.

The journal's target audience includes scientists engaged in the identification and study of the mechanisms of action of xenobiotics, biologics and drugs and in the drug discovery and development process.

All areas of cellular biology and cellular, tissue/organ and whole animal pharmacology fall within the scope of the journal. Drug classes covered include anti-infectives, anti-inflammatory agents, chemotherapeutics, cardiovascular, endocrinological, immunological, metabolic, neurological and psychiatric drugs, as well as research on drug metabolism and kinetics. While medicinal chemistry is a topic of complimentary interest, manuscripts in this area must contain sufficient biological data to characterize pharmacologically the compounds reported. Submissions describing work focused predominately on chemical synthesis and molecular modeling will not be considered for review.

While particular emphasis is placed on reporting the results of molecular and biochemical studies, research involving the use of tissue and animal models of human pathophysiology and toxicology is of interest to the extent that it helps define drug mechanisms of action, safety and efficacy.

Reports describing experiments conducted with natural product mixtures, plant or animal extracts will not be considered for publication unless the structures and concentrations of all component substances are known, and the agents can be easily obtained by others wishing to replicate the study.

The chemical structure of all novel compounds tested must be included in the submitted manuscript or be readily accessible in the published literature. References to structures in the patent literature must unambiguously identify a single molecular structure. All compounds, reagents, instrumentation and equipment employed in a study must be available from identified commercial suppliers, bio/pharmaceutical companies or from individuals holding legal rights to their use. Submissions will not be considered for publication if the chemical structures of tested compounds are not revealed, generally known, or accessible in the literature.

**Original research submissions must contain:** A rationale for the selection of the compound/drug for study as well as for the concentrations/doses employed. Quantities used for concentration- and dose-response experiments should vary logarithmically, e.g., 1, 3, 10, 30 mg/kg, 0.1, 1.0, 10, 100 nanomolar, etc. Justification must be provided for studying only a single concentration or dose of a compound, especially as it relates to reference standards and antagonists/modulators of receptors, enzymes and signaling pathways. Justification must also be provided for the selection of the statistical tests employed as they relate to the experimental design. It is expected that all findings have been subjected to rigorous quantitative analyses, with the calculation and reporting of IC50, Ki, EC50, etc., values. These must be derived from a minimum of three (3) separate and distinct experiments, with the replicates within any single experiment being averaged to obtain a single value for that experimental series. Manuscripts that fail to meet these criteria will be subject to rejection without peer-review.

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## **AUDIENCE**

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Pharmacologists, Biochemists, Toxicologists, Neuroscientists, Molecular and Cellular Biologists.

## **IMPACT FACTOR**

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## **ABSTRACTING AND INDEXING**

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## GUIDE FOR AUTHORS

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### INTRODUCTION

*Biochemical Pharmacology* is an international peer reviewed journal devoted to publishing original research and invited reviews and commentaries on the interaction of chemical compounds with biological systems. Manuscripts describing experiments conducted with chemical mixtures, plant or animal extracts will not be considered for publication unless the chemical structures and precise concentrations of all substances are reported.

While particular emphasis is placed on reporting findings that relate to pharmacodynamics, pharmacokinetics, and metabolism of both small molecules and biologics at the biochemical and molecular levels, submissions in the areas of behavioral and physiological pharmacology and toxicology are considered if they describe studies directed at defining mechanisms of action. All areas related to the field of pharmacology are represented in the journal including, but not limited to, chemotherapy, neuropharmacology, inflammation/immunopharmacology, antimicrobials, behavioral, respiratory, gastrointestinal, cardiovascular and endocrine pharmacology and toxicology.

Reports describing *de novo* results of clinical studies and those that predominately or exclusively concern database mining and analysis and computational methodologies, e.g. CAMD, are outside the scope of the journal.

#### **Types of papers**

**(1) Full-length Research Papers.** *Biochemical Pharmacology* publishes original research on issues of relevance to the field of pharmacology.

**(2) Reviews and Commentaries.** These articles are by invitation only and provide the authors' views on a selected topic of interest to pharmacologists.

#### *Manuscript preparation and submission*

Provided below is detailed information on the scientific criteria and manuscript formatting required for an article to be considered for publication in *Biochemical Pharmacology*. The online submission process includes the Scientific Checklist (Table 1). Failure to complete the Checklist, or a lack of a response to any items on the Scientific Checklist, automatically disqualifies the work for consideration. Note especially items 1 - 4 as a negative response to any of these automatically disqualifies the report for consideration. See Mullane et al., *Guidelines for Manuscript Submission in the Peer-Reviewed Pharmacological Literature (Biochem. Pharmacol. 97:225-235, 2015; <http://www.sciencedirect.com/science/article/pii/S0006295215003585>)* for a detailed discussion of the issues addressed in the Scientific Checklist.

#### **Scientific Checklist**

##### **Table 1. Scientific Submission Checklist**

*Please answer the following questions with "Yes", "No", or "Not applicable".*

#### **Formatting - The submission will automatically be rejected if these first four questions are not marked "yes"**

1. As *Biochemical Pharmacology* does NOT publish supplemental data with the exception of audio or video files, are all necessary data included in the body of the manuscript?
2. Are all tables and figures numbered and appropriately titled with descriptive legends that permit stand-alone interpretation? Are all data shown in the tables and figures also described in the Results section, discussed in the Discussion section and stated in the Conclusions?

#### **Introduction**

3. Is there a clear statement with background describing the hypothesis being tested by this study? Are the primary endpoints clearly stated?

#### **Materials and Methods**

4. Were human tissues or fluids used in this study? Were the experiments reviewed and approved by the Institutional review Board (IRB)?
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6. Are the source(s) and passage number of cell lines indicated and authenticated by you or the vendor?
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9. Is the rationale for the selection of concentrations, doses, route and frequency of compound administration provided?
10. Are quantified results (e.g., IC50 and/or EC50 values) of concentration- and dose-response experiments included in the manuscript?
11. Are all group sizes approximately the same and clearly indicated in the text and/or in the tables and figures?
12. Were the criteria used for excluding any data from analysis determined prospectively and clearly stated?
13. Was the investigator responsible for data analysis blinded to which samples/animals represent control and treatment groups?
14. Are the reported data displayed as means +/- standard deviation (SD)? Is the number of replicates of three or more independent experimental observations clearly indicated? Were post-hoc tests used to assess the statistical significance among means? Is the threshold for statistical significance (P value) clearly indicated?

## **Results**

15. If western blots are shown, are the appropriate loading controls, replication data, and quantification and statistical analysis shown?
16. If PCR and RT-PCR are included, were MIQE guidelines followed? Was a reference standard (positive or negative controls) included in the study to validate the experiment?

## **Discussion**

17. Are the primary conclusions and any secondary endpoints and their implications clearly stated?
18. Are the limitations of the current study or alternative interpretations of the findings clearly stated?

## **Conflict of Interest/Financial Support**

19. Is a conflict of interest statement included in the manuscript?
20. Are all organizations providing funding for this work listed in Acknowledgements?

Please list any additional explanation(s) you feel may be necessary on the above questions:

## **BEFORE YOU BEGIN**

### ***Ethics in publishing***

Please see our information pages on [Ethics in publishing](#) and [Ethical guidelines for journal publication](#).

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- Inflammation and Immunopharmacology
- Metabolic Disorders and Endocrinology
- Neuropharmacology
- Pharmacokinetics and Drug Metabolism
- Pulmonary, Renal and Hepatic Pharmacology
- Toxicology

## **PREPARATION**

### **Manuscript preparation**

#### **Language**

Neither the Editorial Board nor the reviewers will provide detailed advice for improving the grammar and clarity of a manuscript, regardless of the scientific merit of the work. Authors are responsible for ensuring the article is written in clear English. Either American or British usage is accepted, but not a combination of the two. Manuscripts lacking linguistic clarity or that are not prepared according to the style guidelines outlined below will not be considered for publication. Authors can have their manuscript language-edited. See [English Editing Services](#) under Useful Links below.

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See [http://www.elsevier.com/\\_\\_data/assets/pdf\\_file/0003/91173/Brochure\\_UPP\\_April2015.pdf](http://www.elsevier.com/__data/assets/pdf_file/0003/91173/Brochure_UPP_April2015.pdf) for specific instructions about recommended programs for manuscript preparation, including directions about the placement of mathematical equations, tables and figures and the use of spell-check and grammar-check.

#### **Article Layout**

Reports must be written in English with the pages numbered sequentially. The text must be double-spaced in single-column format with 1" or 25 mm margins. Size 12 (point) Times Roman or Arial font is preferred. The article must be divided into clearly defined sections. The required sections are Introduction, Materials and Methods, Results, Discussion, and References. See Mullane et al., *Guidelines for Manuscript Submission in the Peer-Reviewed Pharmacological Literature* (*Biochem. Pharmacol.*97:225-235, 2015; <http://www.sciencedirect.com/science/article/pii/S0006295215003585>) for a detailed discussion of the topics that must be covered in each section. Subsections should be numbered 1.1 (then 1.1.1,



1.1.2, ), 1.2, etc. The abstract is not included in section numbering. This numbering should be used for internal cross-referencing in the text. Subsections may be assigned a brief heading that appears alone on a separate line.

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The article title should be concise but informative. All abbreviations must be spelled out fully when first mentioned in the abstract or body of the report.

### **Keywords**

Immediately following the abstract the authors must provide up to 6 keywords for indexing purposes. American spelling must be used, avoiding general and plural terms and multiple concepts. Only established abbreviations may be proposed as keywords.

### **Acknowledgments**

Acknowledgments must be listed in a separate section at the end of the article before the references. The Acknowledgments should include the names of individuals, organizations and funding agencies that provided assistance in underwriting and reporting the work.

### **Nomenclature and abbreviations**

Receptor and ion channel nomenclature must conform to guidelines of the Committee on Receptor Nomenclature and Drug Classification of the International Union of Basic and Clinical Pharmacology (IUPHAR) (<http://www.guidetopharmacology.org/nomenclature.jsp>). Use only abbreviations that are generally accepted by the scientific community. Click [HERE](#) to view the full list of abbreviations that can be employed without definition. Drugs or other compounds should only be identified by their chemical or generic names. The source, including company name and location, for all chemicals, reagents, cell lines, tissue, and experimental animals must be provided in Materials and Methods.

### **GenBank**

GenBank accession numbers should be typed in bold, underlined text. Letters in the accession number should always be capitalized. Example: a B-cell tumor from a chronic lymphatic leukemia (GenBank accession no. **BE675048**), and a T-cell lymphoma (GenBank accession no. **AA361117**) In the final electronic version of the article, the accession number text will be linked to the appropriate source in the NCBI databases.

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Illustrations must have a caption that is listed separately from the figure in the submitted version of the work. The caption should be self-explanatory without the need to reference the accompanying text. All symbols appearing on the illustration must be clearly defined in the figure legend.

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All tables must be numbered consecutively in Arabic numerals and cited in the text in their order of appearance. Table titles should be brief and descriptive. Tables should appear individually on separate pages in the submitted version of the work, together with a legend that includes sufficient information about the experimental protocol and results so the reader does not have to refer back to the text to understand the experimental protocol and findings. Tables should not have vertical lines, and the number of horizontal lines should be minimized.

### **References**

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Ensure that every reference cited in the text is present in the reference list, and vice versa. Unpublished results and personal communications should not appear in the reference list, but may be indicated in the text.

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[dataset] [5] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1, 2015. <http://dx.doi.org/10.17632/xwj98nb39r.1>.

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There are no strict requirements on reference formatting for the initial submission. References can be in any style or format as long as they are consistent within the manuscript. Regardless of the format, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be shown. Use of DOI is encouraged.

#### *Reference management software*

Most Elsevier journals have a standard template available in key reference management packages. This covers packages using the Citation Style Language, such as Mendeley (<http://www.mendeley.com/features/reference-manager/>: Elsevier [Numeric, with titles]) and also others like EndNote (<http://endnote.com/downloads/style/biochemical-pharmacology>) and Reference Manager (<http://refman.com/downloads/styles/>).

#### **Institutional Email Address**

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#### **Graphical Abstract**

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