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DESCRIPTION

_Biochemical Pharmacology_ publishes original research findings 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 complementary 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 IC<sub>50</sub>, K<sub>i</sub>, EC<sub>50</sub>, 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
Pharmacologists, Biochemists, Toxicologists, Neuroscientists, Molecular and Cellular Biologists.

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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) Review Articles. Biochemical Pharmacology publishes reviews on topics of interest to pharmacologists. While these articles should be as concise as possible, they must include information and interpretations representing different points of view. Reviews can vary in length from 4,000 to 25,000 words, not including references. Inclusion of tables and diagrams as figures is encouraged. Besides being balanced and accurate in the presentation of data, reviews must be authoritative, state-of-the-art accounts of subjects of topical interest to investigators in the field. Articles that simply summarize published reports without proposing new interpretations, experimental approaches or therapeutic implications will not be considered for publication. As with regular research reports, review articles undergo rigorous peer review to determine their suitability for publication in Biochemical Pharmacology.

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 Submission Checklist (Table 1) on the ‘Additional Information Screen’ at https://www.editorialmanager.com/bp/default.aspx. Failure to accurately complete the Scientific Submission Checklist questions automatically disqualifies the work for consideration. See Mullane et al., Guidelines for Manuscript Submission in the Peer-Reviewed Pharmacological Literature (Biochem. Pharmacol 97:225-235, 2015; https://www.sciencedirect.com/science/article/pii/S0006295215003585) for a detailed discussion of the issues addressed in the Scientific Submission Checklist.

Table 1. Scientific Submission Checklist

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

Formatting

Only video or audio files may be uploaded as supplementary data. The submission will automatically be rejected if the first question is marked "no" (i.e. supplementary tables or figures are not permitted).

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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?
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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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12. Are all group sizes approximately the same and clearly indicated in the text and/or in the tables and figures?

13. Were the criteria used for excluding any data from analysis determined prospectively and clearly stated?

14. Was the investigator responsible for data analysis blinded to which samples/animals represent control and treatment groups?

15. 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 Section**

16. If western blots are shown, are the appropriate loading controls, replication data, and quantification and statistical analysis shown?

17. 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 Section**

18. Are the primary conclusions and any secondary endpoints and their implications clearly stated?

19. Are the limitations of the current study or alternative interpretations of the findings clearly stated?

**Conflict of Interest/Financial Support**

20. Is a conflict of interest statement included in the manuscript?

21. Are all organizations providing funding for this work listed in Acknowledgements? In the online submission system, please list any additional explanation(s) you feel may be necessary on the above questions.

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

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Reporting sex- and gender-based analyses

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Definitions
Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth ("sex assigned at birth"), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

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

PREPARATION
Manuscript preparation
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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. The use of spell-check and grammar-check offered in the word processing software is highly recommended. 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.

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 New Roman or Arial font is preferred. The article must be divided into clearly defined and numbered sections. The required sections are 1. Introduction, 2. Materials and Methods, 3. Results, 4. Discussion, and References. See Mullane et al., Guidelines for Manuscript Submission in the Peer-Reviewed Pharmacological Literature (Biochem. Pharmacol.97:225-235, 2015; https://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.

Title and Abstract
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. Abstracts are limited to 250 words.

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. Following the abstract and keywords, provide an alphabetical list of all other abbreviations with their definitions that are used throughout the paper, including the tables, figure legends, and figures. 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.

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