TABLE OF CONTENTS

- Description p.1
- Audience p.2
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.4

DESCRIPTION

Human Immunology publishes full-length, original, hypothesis-driven basic and clinical research articles as well as brief communications, reviews and editorials covering immunogenetics, transplantation immunology, autoimmunity, and immunity to infectious diseases in humans. It also publishes short population reports, which are tied to the allelefrequencies.net database, describing allele frequencies of HLA and KIR.

The journal's scope includes understanding the genetic and functional mechanisms that distinguish human individuals in their immune responses to allografts, pregnancy, infections or vaccines as well as the immune responses that lead to autoimmunity, allergy or drug hypersensitivity. It also includes examining the distribution of the genes controlling these responses in populations.

Research areas include:

- Studies of the genetics, genomics, polymorphism, evolution, and population distribution of immune-related genes
- Studies of the expression, structure and function of the products of immune-related genes
- Immunogenetics of susceptibility to infectious and autoimmune disease, and allergy
- The role of the immune-related genes in hematopoietic stem cell, solid organ, and vascularized composite allograft transplant
- Histocompatibility studies including alloantibodies, epitope definition, and T cell alloreactivity
- Studies of immunologic tolerance and pregnancy
- T cell, B cell, NK and regulatory cell functions, particularly related to subjects within the journal's scope
- Pharmacogenomics and vaccine development in the context of immune-related genes

Human Immunology considers immune-related genes to include those encoding classical and non-classical HLA, KIR, MIC, minor histocompatibility antigens (mHAg), immunoglobulins, TCR, BCR, proteins involved in antigen processing and presentation, complement, Fc receptors, chemokines and cytokines. Other immune-related genes may be considered.
**Human Immunology** is also interested in bioinformatics of immune-related genes and organizational topics impacting laboratory processes, organ allocation, clinical strategies, and registries related to autoimmunity and transplantation.

Original papers with new data will be given preference over uninvited reviews and meta-analyses.

As the flagship scientific publication of the American Society for Histocompatibility and Immunogenetics (ASHI), **Human Immunology** is primarily directed to readers with an interest in histocompatibility, immunogenetics, transplantation, anthropology/population studies, HLA disease association and pharmacogenomics. These include basic and clinical scientists as well as histocompatibility laboratory professionals.

**AUDIENCE**

Immunologists, Geneticists, Pathologists, Biochemists, Histocompatibility Technologists.

**ABSTRACTING AND INDEXING**

SIIC Data Bases
BIOSIS Citation Index
Chemical Abstracts
Current Contents - Life Sciences
Embase
PubMed/Medline
Elsevier BIOBASE
Scopus

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GUIDE FOR AUTHORS

INTRODUCTION

*Human Immunology* publishes full-length, original, hypothesis-driven basic and clinical research articles as well as brief communications, reviews and editorials covering immunogenetics, transplantation immunology, autoimmunity, and immunity to infectious diseases in humans. It publishes short population reports, which are linked to the allelefrequencies.net database, describing the allele and haplotype frequencies of HLA and KIR.

A complete description of the journal's aims, scope and research areas can be found on the home page.

TYPES OF PAPERS

**Research papers**

A full-length report of original, hypothesis-driven basic or clinical research, with new data, investigated using the scientific method, may be submitted as a research paper.

Limit- 4000 words excluding references, tables, and figures

Abstract- 200 words maximum

References- up to 75

**Brief communications**

A short report of a distinct novel observation arising from hypothesis-driven basic or clinical research, investigated using the scientific method, may be submitted as a brief communication.

Limit- 2500 words

Abstract- 150 words maximum

References- up to 30

Research papers and brief communications should include the following sections: Title Page (including an abbreviated title of not more than 45 characters and spaces)Abstract (number of words specified above)Keywords (up to 5)Abbreviations (list of abbreviations used)IntroductionMaterials and MethodsResultsDiscussionAcknowledgementsReferencesTables, Figure Legends, and Figures

**Review Articles**

Review articles should focus on areas in which there has been recent significant progress by a number of laboratories and investigators. No previously unpublished results should be included. Invited review articles will get priority over uninvited submissions.

Limit- 5000 words, excluding references, tables, and figures

Abstract- 200 words maximum

References- up to 80

Review articles should include the following sections: Title Page (including an abbreviated title of not more than 45 characters and spaces) Abstract (number of words specified above) Keywords (up to 5)Abbreviations (list of abbreviations used) Introduction Discussion Conclusions Acknowledgements References Tables, Figure Legends, and Figures.

**Short Population Reports**

Structured descriptions of reference populations, populations of anthropological interest, and control populations for disease studies, with associated genetic data and minimal analysis, can be published in *Human Immunology* as peer-reviewed Short Population Reports.

*Human Immunology* has partnered with the Allele Frequencies Net Database (AFND) to archive and make publicly accessible the primary genotype, allele frequency and haplotype frequency data for the HLA and KIR genes from these population studies, along with demographic data for each population.

Data **MUST** be submitted to AFND prior to submitting a Short Population Report to *Human Immunology*.
As of April 1, 2022, in light of advancements in HLA allele detection, data submitted to AFND with the intention of writing a Short Population Report MUST have been tested by molecular methods to at least 4 digit (two field) level. Lower resolution data can still be submitted to AFND and will be judged on merit (e.g. uniqueness of the population, paucity of existing data, etc.) but cannot be submitted as a Short Population Report.


THE FOLLOWING INSTRUCTIONS FOR SUBMITTING SHORT POPULATION REPORTS MUST BE ADHERED TO EXACTLY. MANUSCRIPTS NOT COMPLYING WITH ALL THE INSTRUCTIONS WILL BE REJECTED.

Following checking and ratification of the data by AFND, authors will be informed that they may now submit the Short Population Report to Human Immunology.

The title of a Short Population Report should include the name of the population and its geographic region of origin in no more than 150 characters.

The body of a Short Population Report should include the following in no more than 1000 words:
A description of the geographic origin of the population, indicating the general region where the samples were collected, and the region to which the population is indigenous if these locations differ
A brief anthropological and demographic overview of each population's history, including information regarding potential ancestral populations, the history of migrations and any changes in the historical range of the population, and the degree and extent of contact with neighbors or other populations
A summary of the languages spoken by the members of the population, along with any pertinent historical linguistic information
A summary of any relevant cultural or ethnographic information for the population (e.g., ethnic distinctions, marriage patterns, caste structures). A description of the methods employed in obtaining samples, including: the rationale for collecting the population sample, the rationale for selecting the sites from which the samples were obtained, information regarding the degree of relatedness among individuals, and information on whether or not data was collected in a disease study.

A summary of the typing methods used to generate the genotype data for this population, including: a full description of the method and rationale used to resolve allele and genotype ambiguity, or a statement in the text of the manuscript that no ambiguities resulted from the genotyping methods applied. Authors should be aware that all current genotyping methods, other than complete phased 5' UTR to 3' UTR sequencing, result in genotyping ambiguities. (in cases of typing ambiguity) a table identifying the ambiguities that were reduced, and the alleles or genotypes to which they were reduced
Up to 10 citations of previous genetic studies on the population, for both immunogenetic and non-immunogenetic markers. The following three types of analyses of the genotype data: tests of deviation from Hardy-Weinberg expectations, calculation of allele frequencies, and when multi-locus data are presented, estimation of haplotype frequencies (or calculation of haplotype frequencies if phase is known). Allele and haplotype frequency tables should be included as supplemental data. Numbers of individual alleles should be calculated via direct counting, and not via statistical estimation.

The data and the name of the population in the Short Population Report MUST be identical to the data and population name on AFND. Any data not identical will be rejected. The accession number allocated by AFND must be included in the Short Population Report.

The AFND must be referenced as follows:

Authors are encouraged to submit reports that describe all commonly typed loci of a specific gene family (e.g. all commonly typed HLA genes, or all commonly typed KIR genes) for a population in a single report. Multiple short populations reports which add only incremental information for the same population will not be accepted. New short population report manuscript submissions should describe a population or gene family that the author(s) has not described before.

For example:

Acceptable - descriptions of KIR loci in a population for which HLA genes have previously been described Not acceptable - a new report describing HLA-B in a population for which an HLA-A report has been published Not acceptable - a new report describing additional KIR genes for a population in which other KIR genes have already been described in a short population report Any additional work deemed insufficient to warrant publication as a Short Population Report can still be submitted to AFND.

FOR ALL TYPES OF PAPERS
The topics of all papers submitted to Human Immunology should fall within the aims and scope of the journal.

The title page should include the names and affiliations of the authors, the complete address, e-mail address, and telephone number of the corresponding author.

Papers should be divided into clearly defined, labeled and numbered sections.

Writing should be clear and concise. English should be easily understandable with proper grammar and spelling.

All submissions should include a cover letter including the following:A statement that the manuscript is being submitted to Human Immunology. Those aspects of the journals aims and scope to which the manuscript pertains. That the manuscript has not been published and is not currently under consideration by any other journal. That all authors have contributed to the submitted work, and approve the manuscript and its submission to the journal. That any novel HLA sequences have already been checked and named at IPD-IMGT/HLA.

COMPLIANCE WITH REPORTING GUIDELINES
As applicable, manuscripts must be in compliance with the following guidelines for reporting:STrengthening the Reporting of Observational Studies in Epidemiology (STROBE), STrengthening the REporting of Genetic Association studies (STREGA), STrengthening the REporting of Immunogenomic Studies (STREIS) Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Meta-analysis Of Observational Studies in Epidemiology (MOOSE)

A statement that the authors have followed the applicable reporting guidelines and their associated checklists (specify which guidelines were followed) should be included in the methods section of the manuscript.

GUIDELINES FOR CANDIDATE GENE ASSOCIATION STUDIES Carefully describe the cohort’s characteristics and the patient recruitment criteria. Describe in detail the rationale for gene selection - it will be carefully evaluated by the editors. Report power calculations for the known effect sizes and allele frequencies. (studies of multifactorial diseases with <500 samples are rarely accepted for publication) Include only unrelated subjects or control for any relatedness. Include genotyping quality control information. Provide sequences of primers or details of kits used for genotyping. Carefully describe the typing methods used and their accuracy. Perform high-resolution HLA analysis where appropriate. Check genotype data for Hardy-Weinberg equilibrium. Describe the statistical methods used and their appropriateness. Present the results clearly and thoroughly and avoid excess tables (no more than 3) Correct for any multiple testing. Control for population stratification. Control for any significant HLA associations. Describe the haplotypic structure of the association. Studies showing replication of results in a second cohort are strongly favored. Studies showing experimental evidence for functional relevance are strongly favored. Association studies focusing on a single gene or a single polymorphism have limited relevance and will likely be rejected. Cite previous papers that demonstrate associations with the same gene(s) and provide possible explanations for any
inconsistencies. Use WHO gene/allele nomenclature. Please also refer to the STREGA guidelines for the reporting of genetic association studies. Gene association studies not following these guidelines will likely be rejected without review.

Contact details for submission
Submission of manuscripts to this journal proceeds totally online, by means of the electronic submission tool at https://www.editorialmanager.com/HIM/default.aspx

SUBMISSION CHECKLIST
Use this list to carry out a final check of your submission before you submit it to the journal for review. Please check the relevant sections in this Guide for Authors for more details. Ensure that the following items are present:

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  - All figures (including relevant captions)
  - All tables (including titles, description, footnotes)
  - Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print
- Graphical Abstracts / Highlights files (where applicable)
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Further considerations:
- Manuscript has been 'spell checked' and checked for English grammar
- Manuscript sections and subsections are numbered
- All references mentioned in the Reference List are cited in the text, and vice versa
- All figures and tables included with the submission are referred to in the text, an vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- Relevant declarations of conflicts of interest have been made
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details are provided, based on journal requirements.

Note: Institutional email addresses must be provided for referees; suggested referees for whom institutional email addresses are not provided will not be invited for peer-review.

For further information, visit our Support Center.

DETAILS FOR SUBMISSION
Submission of manuscripts to Human Immunology occurs online at https://www.editorialmanager.com/HIM/default.aspx

BEFORE YOU BEGIN

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Please see our information on Ethics in publishing.

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Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.

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Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns ("clinicians, patients/clients") as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

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**Reporting guidance**
For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research's generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below). Authors can refer to the Sex and Gender Equity in Research (SAGER) guidelines and the SAGER guidelines checklist. These offer systematic approaches to the use and editorial review of sex and gender information in study design, data analysis, outcome reporting and research interpretation - however, please note there is no single, universally agreed-upon set of guidelines for defining sex and gender.

**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.

**Contributors**
Each author is required to declare their individual contribution to the article: all authors must have materially participated in the research and/or article preparation, so roles for all authors should be described. The statement that all authors have approved the final article should be true and included in the disclosure.

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Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such
a change, the Editor must receive the following from the **corresponding author**: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors **after** the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

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In line with the position of the International Committee of Medical Journal Editors, the journal will not consider results posted in the same clinical trials registry in which primary registration resides to be prior publication if the results posted are presented in the form of a brief structured (less than 500 words) abstract or table. However, divulging results in other circumstances (e.g., investors' meetings) is discouraged and may jeopardise consideration of the manuscript. Authors should fully disclose all posting in registries of results of the same or closely related work.

**Reporting clinical trials**

Randomized controlled trials should be presented according to the CONSORT guidelines. At manuscript submission, authors must provide the CONSORT checklist accompanied by a flow diagram that illustrates the progress of patients through the trial, including recruitment, enrollment, randomization, withdrawal and completion, and a detailed description of the randomization procedure. The CONSORT checklist and template flow diagram are available online.

**Registration of clinical trials**

Registration in a public trials registry is a condition for publication of clinical trials in this journal in accordance with International Committee of Medical Journal Editors recommendations. Trials must register at or before the onset of patient enrolment. The clinical trial registration number should be included at the end of the abstract of the article. A clinical trial is defined as any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects of health outcomes. Health-related interventions include any intervention used to modify a biomedical or health-related outcome (for example drugs, surgical procedures, devices, behavioural treatments, dietary interventions, and process-of-care changes). Health outcomes include any biomedical or health-related measures obtained in patients or participants, including pharmacokinetic measures and adverse events. Purely observational studies (those in which the assignment of the medical intervention is not at the discretion of the investigator) will not require registration.

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PREPARATION

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To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

**Article structure**

**Subdivision - numbered sections**
Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

**Introduction**
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

**Material and methods**
Provide sufficient detail to allow the work to be reproduced, with details of supplier and catalogue number when appropriate. Methods already published should be indicated by a reference: only relevant modifications should be described.

**Results**
Results should be clear and concise.

**Discussion**
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

**Essential title page information**

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.

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**Abstract**
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