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***High-resolution structural data*:** Any paper submitted to *The JI* that contains new high-resolution structural data requires an accession number from the Protein Data Bank (www.rcsb.org/pdb/Welcome.do) and assurance that unrestricted release will occur at or before the time of publication. The accession number should be accompanied by the Web site address of the databank.

***Nucleotide sequences*:** Sequences of nucleotides or amino acids longer than 50 bases/residues should not be presented in the text or in table form, but rather should be submitted as a publication quality figure. Original nucleotide sequences and determined nucleotide sequences encoding reported amino acid sequences described in the manuscript must be submitted to GenBank (http://www.ncbi.nlm.nih.gov/Genbank/) or EMBL (http://www.ebi.ac.uk/embl/). DataLibrary at the time of manuscript submission. An accession number and sequence availability are required at the time of publication. The accession number should be accompanied by the Web site address of the databank.

***Microarray data*:** *The JI* will not publish descriptive manuscripts that report microarray data, unless such information can be considered of unusual immunological significance and/or include functional experiments that provide novel insight into mechanism. As with other scientific approaches, current experimental, quantitation, verification, and statistical analyses are expected. Microarray experiments should be Minimum Information About a Microarray Experiment (MIAME) compliant (for guidelines, see http://www.mged.org/Workgroups/MIAME/miame.html). Whereas limited online space may be available for supplemental tables associated with the manuscript, complete microarray data must be deposited in the appropriate public database (e.g., GEO [http://www.ncbi.nlm.nih.gov/geo/], ArrayExpress [http://www.ebi.ac.uk/microarray-as/ae/], or CIBEX [http://cibex.nig.ac.jp/index.jsp]), and must be accessible without restriction from the date of publication. An entry name or accession number must be included in the paper before publication. The accession number should be accompanied by the Web site address of the databank.

STYLE GUIDE

General style conventions: In general, The JI follows Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers, 7th Edition, published by the Council of Science Editors, Inc., in instances where style issues are not directly addressed.

***Abbreviations for references*:** Pubmed (http://www.ncbi.nlm.nih.gov/journals) is the primary source for journal name abbreviations.

***Nomenclature*:** The most current links for nomenclature guidelines are posted online.

Allergen nomenclature: Nomenclature for allergens should be assigned in cooperation with the International Union of Immunological Societies (IUIS) Allergen Sub-Committee. Authors of accepted manuscripts that describe novel allergens will be requested to complete a brief standard form available at IUIS Allergen Nomenclature (http://www.allergen.org/Allergen.aspx).

CD nomenclature: For the purpose of consistency, *The JI* will follow CD nomenclature. For murine molecules, *The JI* will follow the nomenclature previously published (*J. Immunol.* 160: 3861–3868, 1998). For human molecules, standard CD nomenclature will be followed as updated (*J. Immunol.* 168: 2083–2086, 2002). See also http://www.HCDM.org.

Chemical names: The JI uses *The Merck Index* (http://library.dialog.com/bluesheets/html/bl0304.html) and the *IUPAC-IUB Commission on Biochemical Nomenclature-Chemical Abstracts* (http://www.chem.qmul.ac.uk/iupac/bibliog/white.html) as the primary references for proper spelling and style of chemical names.

Chemokine/chemokine receptor nomenclature: The systematic name for chemokines and chemokine receptors should be used. The original name may be given in parentheses if desired. See *Cytokine 21:48 –9, 2003.*

Enzyme nomenclature: (http://www.chem.qmul.ac.uk/iubmb/enzyme/) is *The JI* source for style and spelling of enzyme names.

Gene nomenclature: The HUGO guidelines for gene nomenclature (http://www.genenames.org/) may be used for naming human genes. Mouse Genome Informatics (http://www.informatics.jax.org/) is a reference source for naming mouse genes.

Genetic nomenclature for mice: *The JI* uses the revisions for standardized genetic nomenclature for mice published periodically in *Mouse Genome.* A current listing of inbred strains of mice and rats is available at Mouse Genome Informatics. Authors are encouraged to deposit their mapping data with the Mouse Genome Database (MGD) (http://www.informatics.jax.org/) before publication and to include the assigned MGD accession numbers in their manuscripts. Data may be submitted electronically by e-mail. Information about electronic submission of datasets can be obtained at the Data and Nomenclature Submissions page. Gene symbols should be reserved with MGD in advance of publication. An electronic nomenclature submission form is available from the MGD Web site.

HLA nomenclature: HLA nomenclature is updated periodically by the World Health Organization Nomenclature Committee for Factors of the HLA System. A recent reference is *Hum. Immunol. 64: 919–20, 2003*. Annual comprehensive revisions are published in *Human Immunology*, usually in the spring. See also: http://www.ebi.ac.uk/imgt/hla/.

SUPPLEMENTAL MATERIALS

***Supplemental Data*:** Supporting data that are not essential to understanding the material presented in the manuscript may be submitted with the original paper for peer review; however, the print version of the paper must stand on its own without the Supplemental Data. Upload the file as "Supplemental Data" during the online submission. Supplemental material is primarily intended for short videos or large tables, large sequence alignments, or large data sets. Additional supplemental figures and tables that support the interpretation and conclusions drawn in the manuscript may, however, also be submitted for review with the manuscript. Legends or short explanations must accompany all supplemental figures; no other supplementary text is permitted.

Videos must be 320 480 pixels or smaller for best viewing within a browser. Videos must be no longer than 30 seconds and under 10MB, with no sound or voice-over. Submit videos in MPG or QuickTime format. Change QuickTime file extensions to ".mov" so that Web browsers will recognize the file type and play the movie. Compress videos as much as possible to help control file size. Name videos by order of citation appearance (e.g., video1.mov). Authors will be notified if problems exist with videos as submitted and will be asked to take responsibility for modifications. No editing will be done to videos at the Editorial Office. A legend or short explanation must accompany the video.

Links to the supplementary material will appear in two places in the online journal: in the Table of Contents and in the information box associated with the first page of the full-text article. There will not be any links in the body of the article. In the printed paper, supplemental material will be footnoted the first time mentioned: "The online version of this article contains supplemental material."

CUTTING EDGE MANUSCRIPT PREPARATION

Manuscripts submitted to the *Cutting Edge* section should conform to the *General Guidelines* for full-length manuscripts as well as the additional guidelines below:

1. *Cutting Edge* articles, including figures and references, ***must fit within four journal pages.*** Authors should estimate the size of figures and tables and limit the text accordingly. One printed page in *The JI* contains approximately 8,000 characters, including spaces. Thus, a four-page *Cutting Edge* article would contain approximately 32,000 characters. The formula for estimating the number of pages is provided in Manuscript Preparation.
2. The *Abstract* is limited to 150 words.
3. The *Materials and Methods* section may be sharply limited, but should be sufficient to allow the evaluation of results and conclusions.
4. Authors may combine the *Results* and *Discussion* sections.

PREPARATION OF THE REVISED MANUSCRIPT

Follow *The JI* Editorial Office instructions contained in the previous decision letter carefully and thoroughly. A revised manuscript not returned within 9 months of the date of the decision letter will be considered a new manuscript and subject to a new, complete review.

Individual manuscript files, files for each figure and table (even if they are unchanged from the previous submission), and a point-by-point reply to all referee comments must be uploaded to the system. The revised manuscript text must be marked to show changes, using either yellow highlighting or the font color red (Microsoft Word files preferred). Do not show deletions, because if the manuscript is accepted, this version will be immediately sent for publication. High-resolution figure files should be submitted. Figures must be in **TIFF** or **EPS** format and prepared as described under *Figures.*

SUBMIT ONLINE

Submit online at http://ji.msubmit.net. For the initial submission, either a PDF of the entire manuscript (text, figures, and tables), or individual manuscript, figure, and table files may be uploaded to the system. If individual files are uploaded, the system then creates a single PDF for review purposes. For all revised manuscripts, individual manuscript, high-resolution figure, and table files must be uploaded to the system. Authors should save copies for themselves of all the files in their original formats. See *Author Instructions* at http://ji.msubmit.net for online submission requirements. See the *Figures* section for help with preparing digital art. *The JI's* online submission system requires browsers where cookies and Javascript are enabled.

After the manuscript has been checked by journal staff, the Corresponding Author will receive an e-mail acknowledging receipt of the manuscript. The e-mail contains links to the Submission Form and Color Charges Form (if applicable). The Corresponding Author must download, sign, and fax these forms to 301-634-7831 to complete the submission. The manuscript **will not be sent for review** until *The JI* Editorial Office receives these forms signed by the Corresponding Author. The Submission and Color Charges Forms must be submitted each time a manuscript is submitted, including resubmission of a revised manuscript. Please contact infoji@aai.org if you do not receive the acknowledgment e-mail. Please do NOT use the old hard copy forms found in old copies of the printed journal.

PUBLICATION FEES

All publication fees are payable in U.S. dollars. Accepted manuscripts are published only upon commitment by the author(s) or institutional financial officer to pay these charges.

Submission Fee*:** If the corresponding author is not an **AAI member, a fee of $50 per manuscript must be paid by credit card (American Express, MasterCard, or Visa) during the submission

process. If payment by credit card is impossible, please contact infoji@aai.org to arrange payment by check (drawn on a U.S. bank). We do not accept cash or purchase orders.

*There is no processing fee for regular, emeritus or honorary AAI members in good standing.

Page Charges:

- $60 per page for up to 8 printed pages in the article
- $150 for each additional page from 9 to 12 pages
- $210 for each additional page over 12 pages

***Color Charges*:** Color figures may include multiple color panels. Authors will be notified of the estimated cost of color reproduction in eBill, our new author billing system, and must confirm acceptance of the charges at that time. Authors should expect that color figures in the accepted paper will be reproduced in color and will incur color charges.

Note that AAI members receive a significant discount on color charges.

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***Online Posting Fee*:** $150 per published article.

***Reprints*:** Reprints must be ordered in advance of publication. Within 1 day of receiving the paged proof of your article you will receive an additional e-mail that will direct you to eBill, our new author billing system. From this site you will be able to order reprints, view the estimated charges for your upcoming article, and make payments electronically. Reprint orders from noncontributors must be directed to the Editorial Office.

PEER REVIEW INFORMATION

***The Process*:** By submitting a manuscript to *The JI*, the authors agree to subject it to the confidential peer-review process. Editors and reviewers are informed that the manuscript must be considered confidential. After a manuscript is received, it is assigned by the Science Coordinator to a specific Deputy Editor and a Section Editor, whose expertise is considered to be appropriate. The Section Editor prepares a list of expert reviewers, which may include some suggested by the Science Coordinator. Authors can indicate specific individuals whom they would like to have excluded. Generally, requests to exclude certain potential reviewers will be honored except in fields with a limited number of experts.

All potential reviewers are contacted individually to determine availability. Manuscript files are sent to at least two expert reviewers. Reviewers are asked to complete the review of the manuscript within 2 weeks and to return a short review form. Based on the reviewers' comments, the Section Editor recommends a course of action and communicates the reviews and recommendations to the Deputy Editor for a final decision.

The Deputy Editor considers the comments made by the reviewers and the recommendation of the Section Editor, selects those comments to be shared with the authors, makes a final decision concerning the manuscript, and prepares the decision letter for signature by the Editor-in-Chief. If revisions of the manuscript are suggested, the Deputy Editor also recommends who should review the revised paper when resubmitted. Authors are informed of the decision by e-mail; appropriate comments from reviewers and editors are appended.

***Decisions*:** There are four categories for initial decisions: accept, accept with minor revision, return for revision, and reject. Some manuscripts are accepted provisionally, pending relatively minor revisions. In this case, the Deputy Editor may conduct the rereview. For many manuscripts, authors are invited to resubmit if revision or additional experimentation can address major criticisms. Typically, one or more reviewers will then be asked to consider the adequacy of the revisions. *Cutting Edge* papers are allowed only minor revisions because of time constraints. All revised manuscripts are carefully reexamined, and ultimate acceptability is not guaranteed. *The JI* does not provide for an advance determination of the acceptability of a particular manuscript for publication, nor does it promise expedited review of selected manuscripts.

***Communication with Authors*:** To minimize the possibility of misinterpretation or errors in verbal communication, the Editorial Office will provide information, in writing, only to the corresponding author and will not provide extensive details (e.g., exact status of a review or a predicted time to final decision). Deputy Editors do not take calls from authors concerning decisions or other related matters. All such inquiries should be addressed in writing to the Editor-in-Chief, who will discuss concerns with the Deputy Editor. This policy has been established to provide uniformity and fairness when addressing concerns about the review process.

***Manuscripts Submitted from the Institution of an Editor*:** Manuscripts submitted from the institution of any Section or Deputy Editor or the Editor-in-Chief are reviewed by other editors from outside that institution. The Editorial Office ensures confidentiality and equity in reviewing all manuscripts.

***Rebuttals*:** If the authors believe that a serious scientific error occurred during the review, a letter of rebuttal may be sent to the Editor-in-Chief explaining the reasons why the decision should be reconsidered. Letters of rebuttal must be received by the Editorin-Chief within 6 weeks of the date the decision letter was sent. When appropriate, the matter will be taken up with the initial Deputy Editor, Section Editor, or additional reviewers. Rebuttals that challenge rejections that were based on priority alone are rarely successful, since the assignment of priority is necessarily a matter of opinion. If the authors of a rejected manuscript are able to make new advances that go far beyond the original submission, they will often expedite consideration of their paper through the submission of a completely new manuscript.

***The JI* Reviewers**

Selection: Selection of reviewers is the responsibility of the Section Editor, although the Science Coordinator makes recommendations to the Section Editor from a list of individuals who have reviewed manuscripts previously. This database includes self-identified areas of expertise as well as information about the perceived usefulness and timeliness of past reviews. Individuals who consistently have provided tardy or unhelpful reviews are removed from the database. Every effort is made to avoid both real and apparent conflicts of interest with respect to research activities or collaborative or personal interactions. Reviewers are asked to withdraw from considering any manuscript in which they identify a conflict that has escaped the attention of the Section Editor.

Scientific Integrity: Information contained in manuscripts is considered confidential and should not be shared or distributed. If necessary, a reviewer can consult with others for an adequate evaluation of the research findings if all individuals involved

maintain confidentiality, objectivity, and avoid conflict of interest. AAI is not responsible for acts and conduct by reviewers that are not in accordance with accepted professional standards. Reviewers are asked to be objective in their evaluations and to judge primarily the novelty and soundness of the information presented.

Anonymity: Although reviews are anonymous, all comments should be capable of withstanding public scrutiny. Except in very unusual circumstances, the identity of the reviewers and Section and Deputy Editors involved in the review of any given manuscript is kept confidential.

***The JI Editorial Board*:** The AAI Council, upon recommendation of the Publications Committee, appoints the Editor-in-Chief for a term of 5 years. Deputy Editors, Section Editors, and Associate Editors are nominated by the Editor-in-Chief and appointed by the Publications Committee. Deputy Editors are appointed for variable terms. Section Editors and Associate Editors are appointed for one renewable term of 2 years in most circumstances. The Editor-in-Chief, the Deputy Editors, and the Section Editors constitute the Editorial Board and are required to be members of AAI. The Editor-in-Chief is responsible for the specific editorial conduct of *The JI*. The AAI Publications Committee is responsible for the management and evaluation of *The JI* and any other official publications of AAI, subject to the general supervision of the AAI Council.

EDITORIAL POLICIES

***Duplicate Publication and Scientific Fraud*:** In case of possible scientific misconduct (i.e., suspected fabrication or falsification of data, double publication, or plagiarism), the Editor-in-Chief will attempt to clarify the matter with each of the authors. Should that fail to resolve the situation satisfactorily, the Editor-in-Chief will contact the institution of the corresponding author. The institution should then make an inquiry and report to the Editor-in-Chief. Until the matter is clarified, no papers by any authors on the disputed manuscript will be considered for publication. If scientific misconduct is confirmed by institutional review, the Editor-in- Chief will report it to the Publications Committee. The Publications Committee, in consultation with the Council of AAI, will decide appropriate action.

***Embargo Policy*:** For manuscripts considered to be in press or approved for publication, the public release of information should not precede the actual publication of the work. The publication date is defined as the date the first copy is mailed from the printer or the first day the issue is posted full-text online. Please note that the issue date and mail dates do not necessarily coincide. This embargo policy protects the peer-review process and the newsworthiness of the scientific content of published articles, and minimizes the chance for the appearance of misinformation in the lay press. The policy also ensures that scientists have access to all relevant information at the same time as the public. These restrictions do not apply to the presentation of the work at scientific conferences or symposia that precede the actual publication date. Although news reporters may be present at such meetings or symposia, information, tables, or illustrations that in any way duplicate the content of a manuscript submitted for publication or in press should not be provided to reporters by the authors. In particular, press conferences should not be held before the embargo date. The official release of videotape presentations and electronic prepublication of articles on the Internet should adhere to the embargo policy. Violations of these policies are legitimate grounds for withdrawal of the manuscript from publication or other measures that *The JI* may choose to take.

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AAI views this policy as a costly, duplicative effort that diverts federal dollars from biomedical research. For more information about how publishing in *The JI* relates to the policy, please see the NIH Public Access Policy: Frequently Asked Questions (http://publicaccess.nih.gov/FAQ.htm).

Despite AAI's serious concerns about this policy, AAI will grant a limited one-time waiver permitting authors to deposit an accepted manuscript into PMC, provided that the corresponding author:

1. instructs the NIH to release the manuscript to the public no sooner than 12 months after final publication in *The JI*;
2. agrees that this one-time waiver applies solely to deposition into PMC and does not extend to any other repository, agency, or entity; and
3. agrees to and includes in the text of the abstract of the manuscript submitted to PMC the following disclaimer:

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Previous publication of a particular figure may not prevent subsequent publication in *The JI* if that figure is essential to the submitted paper and does not constitute the major contribution. Previously published portions of a paper must be accompanied by a permission release from the copyright holder and must be cited.

Preprints, whether paper copies or noncitable postings on a publicly accessible Web site, are not considered publications, nor are poster presentations of work at a conference.

An invited paper published in a non-peer-reviewed journal, however, would be considered a prior publication.

Submissions of previously published research, as defined by the criteria, must contain a disclosure statement; it is at the Editor-in-Chief's discretion whether to allow peer review of the work in these instances.

***Unique materials*:** It is required that unique materials developed for manuscripts published in *The JI*, that are not available from commercial suppliers, will be made available, within reason, to qualified investigators for their own noncommercial use. An agreement to this effect is included in the Manuscript Submission Form. A reasonable amount may be charged by authors to cover preparation and shipping of the requested material. Any restrictions on sharing of materials (for example, Material Transfer Agreements or patents) that apply to unique materials developed for the manuscript must be disclosed in the *Materials and Methods* section of the paper.

STANDARD ABBREVIATIONS

The abbreviations listed here are used without definition in articles published in *The JI*. The form may be used for both singular and plural, or made plural with "s" at the author's option.

Å, angstrom
aa, amino acid (only with numbers)
Ab, antibody
ABTS, 2,2′-azinobis(3-ethylbenzthiazoline-6-sulfonic acid)
ADP, adenosine 5′-diphosphate
Ag, antigen
AIDS, acquired immunodeficiency syndrome
AMP, adenosine 5′-monophosphate
ANOVA, analysis of variance
AP-1, activator protein 1
APC, Ag-presenting cell
ATP, adenosine triphosphate
BALB/c, a mouse strain
BALT, bronchus-associated lymphoid tissue
BAPTA-AM, 1,2-bis(2-aminophenoxy)ethane-*N*,*N*,*N*′,*N*′-tetraacetic acid acetoxymethyl ester
BCR, B cell receptor
bp, base pair (only with numbers)
BrdU, 5-bromo-2′-deoxyuridine
BSA, bovine serum albumin
C, complement
C region, constant region of Ig
cAMP, cyclic AMP
C terminus, carboxyl terminus
C-terminal, carboxyl-terminal
CCL, CC chemokine ligand
CCR, CC chemokine receptor
CD40L, CD40 ligand
cDNA, complementary DNA
CDP, cytidine 5′-diphosphate
CDR, complementarity determining region
C/EBP, CCAAT/enhancer-binding protein
CFA, complete Freund's adjuvant
CFSE, 5-(and 6-)-carboxyfluorescein diacetate succinimidyl ester
CFU, colony-forming unit
cGMP, guanosine 3′,5′-cyclic monophosphate
CHAPS, 3-[(3-cholamidopropyl)dimethylammonio]-1-propanesulfonate
Ci, curie
CIITA, class II transactivator
CLIP, class II-associated invariant-chain peptide
cM, centiMorgan(s)
CMP, cytidine 5′-monophosphate
CMV, cytomegalovirus
CNS, central nervous system
CoA, coenzyme A
Con A, concanavalin A
CpG, cytosine guanine dinucleotide
cpm, counts per minute
CREB, cAMP response binding protein
cRNA, complementary RNA
CSF, colony-stimulating factor
CTL, cytotoxic T lymphocyte
CTLA, cytolytic T lymphocyte-associated Ag
CTP, cytidine 5′-triphosphate
CXCL, CXC chemokine ligand
CXCR, CXC chemokine receptor
d, deoxy; distilled (as in dH2O)
D region, diversity region of Ig or T cell receptor for Ag
Da, dalton (only with numbers)
DAPI, 4′,6′-diamidino-2-phenylindole
DEAE, diethylaminoethyl
df, degrees of freedom
DMEM, Dulbecco's modified Eagle's medium
DMSO, dimethylsulfoxide
DNA, deoxyribonucleic acid
DNase, deoxyribonuclease
DNP, dinitrophenyl
dpm, disintegrations per minute
ds, double-stranded (as dsDNA)
DTT, dithiothreitol
E, erythrocyte
EBV, Epstein-Barr virus
EC_{50}, 50% effective concentration
ECL, enhanced chemiluminescence
ED_{50}, 50% effective dose
EDTA, ethylenediaminetetraacetic acid
EGTA, ethylene glycol-bis(β-aminoethyl ester)-*N*,*N*,*N*′,*N*′-tetraacetic acid
ELISA, enzyme-linked immunosorbent assay
ELISPOT, enzyme-linked immunospot
EMSA, electrophoretic mobility shift assay
ERK, extracellular signal-regulated kinase
E:T ratio, effector to target ratio
Fab, Ag-binding fragment
F(ab′)2
F-actin, filamentous actin
FACS, fluorescence-activated cell sorter
FAM, 6-carboxyfluorescein
FBS, fetal bovine serum
FcR, Fc receptors (e.g., FcγRI)
FCS, fetal calf serum
FITC, fluorescein isothiocyanate
FLICE, Fas-associated death domain-like IL-1β-converting enzyme
FLIP, FLICE inhibitory protein
FLT3, *fms*-related tyrosine kinase 3
fMLP or FMLP, formyl-methionyl-leucyl-phenylalanine
fura 2-AM, fura 2-acetoxymethyl ester
g, gram (only with numbers)
GALT, gut-associated lymphoid tissue
GAPDH or G3PDH, glyceraldehyde-3-phosphate dehydrogenase
G-CSF, granulocyte CSF

GDP, guanosine 5′-diphosphate
GFP, green fluorescent protein
GM-CSF, granulocyte-macrophage CSF
GMP, guanosine 5′-monophosphate
gp, glycoprotein (e.g., gp100)
GPI, glycosylphosphatidylinositol
GST, glutathione *S*-transferase
GTP, guanosine 5′-triphosphate
h, hour (only with numbers)
H chain, heavy chain
H&E, hematoxylin and eosin
HBSS, Hanks' balanced salt solution
HEPES, *N*-2-hydroxyethylpiperazine-*N*′-2-ethanesulfonic acid
HIV, human immunodeficiency virus
HLA, human histocompatibility leukocyte Ag
HPLC, high performance liquid chromatography
HRP, horseradish peroxidase
HSV, herpes simplex virus
HUVEC, human umbilical vein endothelial cell
IC_{50}, 50% inhibition/inhibitory concentration
ICAM, intercellular adhesion molecule
ICOS, inducible costimulator
Id, idiotype; idiotypic determinant
ID_{50}, 50% infective dose or 50% inhibiting dose
IDO, indoleamine 2,3-dioxygenase
IFA, incomplete Freund's adjuvant
IFN, interferon (e.g., IFN-γ)
Ig, immunoglobulin
IgH, Ig heavy chain
IκB or I-κB, inhibitory NF-κB
IL, interleukin (e.g., IL-2)
i.m., intramuscular
IMDM, Iscove's modified Dulbecco's medium
IMEM, Iscove's minimal essential medium
i.p., intraperitoneal
ITAM, immunoreceptor tyrosine-based activation motif
ITIM, immunoreceptor tyrosine-based inhibitory motif
IU, international unit
i.v., intravenous
J region, joining region of Ig or T cell receptor for Ag
JAK or Jak, Janus kinase
JNK, c-Jun N-terminal kinase
kb, kilobase (only with numbers)
kbp, kilobase pair (only with numbers)
K_a, association constant
K_d, distribution coefficient; dissociation constant
K_D, affinity constant
kDa, kilodalton (only with numbers)
L chain, light chain
LD_{50}, 50% lethal dose
LFA, leukocyte (lymphocyte) function-associated Ag
LIF, leukemia inhibitory factor
LPS, lipopolysaccharide
LU, lytic unit
2-ME, 2-mercaptoethanol
mAb, monoclonal Ab
2-ME, 2-mercaptoethanol
MACS, magnetic-activated cell sorting
MALDI, matrix-assisted laser desorption ionization
MALDI-TOF, matrix-assisted laser desorption ionization-time of flight
MALT, mucosa-associated lymphoid tissue
MAPK, mitogen-activated protein kinase
MCP, monocyte chemoattractant protein
M-CSF, macrophage CSF
2-ME, 2-mercaptoethanol
MEK, mitogen-activated protein kinase kinase
MEM, minimum essential medium
MES, 2-(*N*-morpholino)ethanesulfonic acid
mg, milligram (only with numbers)
MHC, major histocompatibility complex
min, minute (only with numbers)
MIP, macrophage-inflammatory protein
ml, milliliter (only with numbers)
MLC, mixed lymphocyte culture
MLR, mixed leukocyte reaction
mo, month(s) (only with numbers)
MOPS, 4-morpholinepropanesulfonic acid
M_r, relative molecular mass
mRNA, messenger RNA
MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-dimethyltetrazolium bromide
μg, microgram (only with numbers)
μl, microliter (only with numbers)
m.w., molecular weight
MyD88, myeloid differentiating factor 88
n, number in study or group
NAD, nicotinamide adenine dinucleotide
NADH, reduced NAD
$NaDodSO_4$, sodium dodecyl sulfate
NADP, NAD phosphate
NADPH, reduced NAD phosphate
NBT, nitroblue tetrazolium
ND, not determined
NDP, nucleoside 5′-diphosphate
NF, nuclear factor
NFAT or NF-AT, nuclear factor of activated T cells
NF-κB, nuclear factor κB
Ni-NTA, nickel-nitrilotriacetic acid
NK cell, natural killer cell
NMP, nucleoside 5′-monophosphate
NO, nitric oxide
NOD, nonobese diabetic
NS, not significant
nt, nucleotide (only with numbers)
N-terminal, NH2-terminal or amino-terminal
N terminus, NH2 terminus or amino terminus
NTP, nucleoside 5′-triphosphate
OCT, octamer-binding factor
OD, optical density
OVA, ovalbumin
p, probability
PAGE, polyacrylamide gel electrophoresis
PBL, peripheral blood lymphocyte
PBMC, peripheral blood mononuclear cell
PBS, phosphate-buffered saline
PCR, polymerase chain reaction
PE, phycoerythrin
PECAM-1, platelet endothelial cell adhesion molecule-1
PerCP, peridinin chlorophyll protein
PFU, plaque-forming unit
PG, prostaglandin
PHA, phytohemagglutinin
PI3K, phosphatidylinositol 3-kinase
PIPES, piperazine-*N*,*N*′-bis(2-ethane sulfonic acid)
PMA, phorbol myristate acetate
PMSF, phenylmethylsulfonyl fluoride
PWM, pokeweed mitogen

r, recombinant (e.g., rIFN-γ)
R, receptor (e.g., IL-2R)
RACE, rapid amplification of cDNA end
RAG, recombination-activating gene
RANTES, regulated upon activation, normal T cell expressed and secreted
RBC, red blood cell
RFLP, restriction fragment length polymorphism
RIA, radioimmunoassay
RNA, ribonucleic acid
RNase, ribonuclease
rpm, revolutions per minute
RPMI, (usually RPMI 1640)
rRNA, ribosomal RNA
RT-PCR, reverse transcriptase polymerase chain reaction
s, second (use only with numbers)
s.c., subcutaneous
SCID, severe combined immunodeficiency
SD, standard deviation
SDS, sodium dodecyl sulfate
SDS-PAGE, sodium dodecyl sulfate-polyacrylamide gel electrophoresis
SE, standard error
SEM, standard error of the mean
SHIP, src homology 2-containing inositol 5′-phosphatase
SIV, simian immunodeficiency virus
sp. act., specific activity
SRBC, sheep red blood cell
ss, single-stranded (e.g., ssDNA)
SSC, standard saline citrate
STAT, signal transducer and activator of transcription
SV40, simian virus 40
$t_{1/2}$, half-life, half-time
TAMRA, 5-(and 6)-carboxytetramethylrhodamine
TAP, transporter associated with Ag processing
Tat, terminal deoxynucleotidyltransferase
TBS, Tris-buffered saline
TBST, TBS with Tween 20
TCA, trichloroacetic acid
TCR, T cell receptor for Ag
TDP, thymidine 5′-diphosphate
TdT, terminal deoxynucleotidyltransferase
TGF, transforming growth factor
Th cell, T helper cell
TLC, thin layer chromatography
TLR, Toll-like receptor
TMP, thymidine 5′-monophosphate
TNF, tumor necrosis factor
TNP, trinitrophenyl
TRAIL, TNF-related apoptosis-inducing ligand
Tris, tris(hydroxymethyl)aminomethane
tRNA, transfer RNA
TTP, thymidine 5′-triphosphate
TUNEL, Tdt-mediated dUTP nick end labeling
U, unit (only with numbers)
UDP, uridine 5′-diphosphate
UMP, uridine 5′-monophosphate
UTP, uridine 5′-triphosphate
UV, ultraviolet
v/v, volume to volume ratio (%)
v/w, volume to weight ratio (%)
V region, variable region of Ig
VCAM, vascular cell adhesion molecule
V(D)J or VDJ, variable diversity joining
VLA, very late activation Ag
W, watt (only with numbers)
WBC, white blood cell
WEHI medium
wk, week (only with numbers)
xid, X-linked immunodeficiency
Zap70, ζ-associated protein 70 (or ζ-chain-associated protein 70)

Keywords

Animals
Human
Rodent
Other Animals

Cells
B Cells
Dendritic Cells
Endothelial Cells
Eosinophils
Mast Cells/Basophils
Monocytes/Macrophages
Natural Killer Cells
Neutrophils
Stem Cells
Stromal Cells
T Cells
T Cells, Cytotoxic
Th1/Th2 Cells

Diseases
Autoimmunity
Diabetes
EAE/MS
Endotoxin Shock
Graft Versus Host Disease
Immunodeficiency Diseases
Rheumatoid Arthritis
Systemic Lupus Erythematosus

Infections
AIDS
Bacterial
Fungal
Parasitic-Helminth
Parasitic-Protozoan
Viral

Molecules
AcutePhase Reactants
Adhesion Molecules
Antibodies Antigens/Peptides/Epitopes
Autoantibodies
Cell Surface Molecules
Chemokines
Complement
Cytokine Receptors
Cytokines
Fc Receptors
Lipid Mediators
Lipopolysaccharide
MHC
Nitric Oxide
Protein Kinases/Phosphatases
Superantigens
T Cell Receptors
Transcription Factors

Processes
Allergy
Antigen Presentation/Processing
Apoptosis
Cell Activation
Cell Differentiation
Cell Proliferation
Cell Trafficking
Chemotaxis
Comparative Immunology/Evolution
Costimulation
Cytotoxicity
Gene Rearrangement
Gene Regulation
Hematopoiesis
Inflammation
Memory
Neuroimmunology
Phagocytosis
Repertoire Development
Reproductive Immunology
Signal Transduction
Tolerance/Suppression/Anergy
Transplantation
Tumor Immunity
Vaccination

Techniques
Gene Therapy
Molecular Biology
Transgenic/Knockout Mice

Tissues
Lung
Mucosa
Skin
Spleen & Lymph Nodes
Thymus

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