

703 This Week in *Science*

Editorial

705 Science at the Four-Year and Master's Universities

Perspective

707 U.S. Nuclear Power in the Next Twenty Years: B. I. SPINRAD

Letters

713 The Meadowcroft Rockshelter: J. M. ADOVASIO AND R. C. CARLISLE ■ Brainwave Counting: W. A. CONIGLIO ■ Flora Project: M. S. STRAUSS

News & Comment

717 AIDS and Drug Abuse: No Quick Fix

719 ARS Prodded into the Open

720 Anglo-French Nuclear Missile Under Study

722 *Briefing*: Army Releases Report on Biowarfare Lab ■ Investor Takes Major Position in BioTechnica ■ Bullish on Genentech ■ Beagle Theft at Irvine ■ Researcher Held in Kenya

723 Patent Claim Buildup Haunts Biotechnology

724 NIH Scientists Balk at Random Drug Tests

Research News

725 Academy Backs Genome Project

727 Pushing Back the Redshift Limit

729 Was There a Prelude to the Dinosaurs' Demise?

730 Superconductors Hotter Yet

Articles

737 Causes of the Liability Insurance Crisis: S. HARRINGTON AND ROBERT E. LITAN

742 Diode Laser-Pumped Solid-State Lasers: R. L. BYER

748 Molecular Phylogeny of the Animal Kingdom: K. G. FIELD, G. J. OLSEN, D. J. LANE, S. J. GIOVANNONI, M. T. GHISELIN, E. C. RAFF, N. R. PACE, R. RAFF

Research Articles

753 Glycosyl-Phosphatidylinositol Moiety That Anchors *Trypanosoma brucei* Variant Surface Glycoprotein to the Membrane: M. A. J. FERGUSON, S. W. HOMANS, R. A. DWEK, T. W. RADEMACHER

Reports

760 New Asymptotics for Old Wave Equations: J. R. KLAUDER

762 Biologically Effective Ultraviolet Radiation: Surface Measurements in the United States, 1974 to 1985: J. SCOTTO, G. COTTON, F. URBACH, D. BERGER, T. FEARS

764 Capture of Atmospheric Ammonium by Grassland Canopies: G. W. HEIL, M. J. A. WERGER, W. DE MOL, D. VAN DAM, B. HEIJNE

■ SCIENCE is published weekly on Friday, except the last week in December, and with an extra issue in February by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Second-class postage (publication No. 484460) paid at Washington, DC, and at an additional entry. Now combined with *The Scientific Monthly* © Copyright © 1988 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$65. Domestic institutional subscription (51 issues): \$98. Foreign postage extra: Canada \$32, other (surface mail) \$27, air-surface via Amsterdam \$65. First class, airmail, school-year, and student rates on request. Single copies \$3.00 (\$3.50 by mail); back issues \$4.50 (\$5.00 by mail); Biotechnology issue, \$5.50 (\$6 by mail); classroom rates on request; Guide to Biotechnology Products and Instruments \$16 (\$17 by mail). Change of address: allow 6 weeks, giving old and new addresses and seven-digit account number. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1 per copy plus \$0.10 per page is paid directly to CCC, 21 Congress Street, Salem, Massachusetts 01970. The identification code for Science is 0036-8075/83 \$1 + .10. Postmaster: Send Form 3579 to Science, 1333 H Street, NW, Washington, DC 20005. Science is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

■ The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.



COVER Subsets of developing T lymphocytes from a mouse, stained with fluorescently labeled monoclonal antibodies against the membrane glycoproteins, CD4 and CD8 ($\times 2800$). Helper T cells (orange, CD4⁺), cytotoxic and suppressor T cells (green, CD8⁺), and immature blast cells and their progeny (yellow, CD4⁺ and CD8⁺) each exhibit a characteristic pattern of ion-channel expression. See page 771. [Richard S. Lewis, University of California, Irvine 92717]

- 766 Effect of Neonatal Handling on Age-Related Impairments Associated with the Hippocampus: M. J. MEANEY, D. H. AITKEN, C. VAN BERKEL, S. BHATNAGAR, R. M. SAPOLSKY
- 769 A Newly Defined Property of Somatotropin: Priming of Macrophages for Production of Superoxide Anion: C. K. EDWARDS III, S. M. GHIASSUDIN, J. M. SCHEPPER, L. M. YUNGER, K. W. KELLEY
- 771 Subset-Specific Expression of Potassium Channels in Developing Murine T Lymphocytes: R. S. LEWIS AND M. D. CAHALAN
- 775 Expression of a Distinctive *BCR-ABL* Oncogene in Ph¹-Positive Acute Lymphocytic Leukemia (ALL): S. S. CLARK, J. MCLAUGHLIN, M. TIMMONS, A. M. PENDERGAST, Y. BEN-NERIAH, L. W. DOW, W. CRIST, *et al.*
- 778 Effects of Intracellular Free Magnesium on Calcium Current in Isolated Cardiac Myocytes: R. E. WHITE AND H. C. HARTZELL
- 780 A Fossil Reptile Embryo from the Middle Triassic of the Alps: P. M. SANDER
- 783 Mesoderm Induction in Amphibians: The Role of TGF- β 2-Like Factors: F. ROSA, A. B. ROBERTS, D. DANIELPOUR, L. L. DART, M. B. SPORN, I. B. DAWID
- 786 One Factor Recognizes the Liver-Specific Enhancers in α ₁-Antitrypsin and Transthyretin Genes: D. R. GRAYSON, R. H. COSTA, K. G. XANTHOPOULOS, J. E. DARNELL

Technical Comments

- 789 Elevated D₂ Dopamine Receptors in Drug-Naïve Schizophrenics: B. R. ZEEBERG, R. E. GIBSON, R. C. REBA; D. F. WONG, A. GJEDDE, H. M. WAGNER, JR., R. F. DANNALS, J. M. LINKS, L. E. TUNE, G. D. PEARLSON

Book Reviews

- 800 The Fall of the Bell System, *reviewed by* W. L. BALDWIN ■ Medical Science and Medical Industry, J. W. SERVOS ■ Sea Surface Studies, O. H. PILKEY ■ Interstellar Processes, Physical Processes in Interstellar Clouds, J. SILK ■ Books Received

Products & Materials

- 807 Centrifugal Partition Chromatography System ■ Spectroscopy Software ■ LC Simulation Software ■ Integrator ■ Data-Acquisition System ■ HPLC Columns ■ Spectrophotometer Cell ■ Supercritical Fluid Chromatograph ■ Gas Chromatograph ■ Gas Cylinder Depletion Guard ■ Spectrometer ■ Column Packings ■ Atomic Absorption Spectrometers ■ Chemical Word-Processing Software ■ Diffractometer ■ Ultraviolet-Visible Spectrophotometer ■ Atomic Absorption Spectrometer ■ Automated Solid-Phase Sample Preparation ■ Supercritical Fluid Chromatograph ■ FTIR Spectrometer ■ ChemStation-Computer Communications ■ Data Collection Program ■ Literature

Board of Directors

Lawrence Bogorad
*Retiring President,
Chairman*

Sheila E. Widnall
President

Walter E. Massey
President-elect

Robert McC. Adams
Floyd E. Bloom
Mary E. Clutter
Mildred S. Dresselhaus
Beatrix A. Hamburg
Donald N. Langenberg
Frank von Hippel
Linda S. Wilson
William T. Golden
Treasurer
Alvin W. Trivelpiece
Executive Officer

Editorial Board

Elizabeth E. Bailey
David Baltimore
William F. Brinkman
Philip E. Converse
Joseph L. Goldstein
F. Clark Howell
James D. Idol, Jr.
Leon Knopoff
Oliver E. Nelson
David M. Raup
Howard A. Schneiderman
Larry L. Smarr
Robert M. Solow
James D. Watson

Board of Reviewing Editors

John Abelson
Qais Al-Awqati
Don L. Anderson
Stephen J. Benkovic
Floyd E. Bloom
James J. Bull
Charles R. Cantor
Ralph J. Cicerone
John M. Coffin
Bruce F. Eldridge
Paul T. Englund
Theodore H. Geballe
Roger I. M. Glass

Stephen P. Goff
Robert B. Goldberg
Corey S. Goodman
Jack Gorski
Stephen J. Gould
Richard M. Held
Gloria Heppner
Eric F. Johnson
Konrad B. Krauskopf
Richard Losick
Karl L. Magleby
Philippa Marrack
Joseph B. Martin
John C. McGiff
Mortimer Mishkin
Jiri Novotny
Gordon H. Orians

Carl O. Pabo
John S. Pearce
Yeshayau Pocker
Jean Paul Revel
James E. Rothman
Daniel V. Santi
Thomas C. Schelling
Ronald H. Schwartz
Otto T. Solbrig
Robert T. N. Tjian
Virginia Trimble
Gerard J. Vermeij
Harold Weintraub
Irving L. Weissman
George M. Whitesides
Owen N. Witte
William B. Wood

Science

239 (4841)

Science **239** (4841), 703-810.

ARTICLE TOOLS

<http://science.sciencemag.org/content/239/4841>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.