Frontiers in Biototechnology

Recent Advances in the Polymerase Chain Reaction: H. A. ERLICH, D. GELFAND, J. J. SNINSKY


Monoclonal Antibodies in Diagnosis and Therapy: T. A. WALDMANN

Vaccinia Virus: A Tool for Research and Vaccine Development: B. MOSS

Toward a Science of Metabolic Engineering: J. E. BAILEY

ScienceScope

1603 CEBAF schedule uncertainty; feds formalizing DNA fingerprinting rules; etc.

News & Comment

1604 A "Chilly Climate" for Women?
1605 Scientists Get Mad at OSI: Richards Panel Out of the Loop? • Did Imanishi-Kari Get a Fair "Trial"?
1608 French Ban Immunotherapy Treatment Steps Toward a Cooler Greenhouse
1609 To Stop Kuwait's Fires, First Clear the Mines
1610 Ad Hoc Team Revives SSC Competition
1611 Gene Mapping Japan's Number One Crop
1612 Briefings: Back to the Future • A Tasty Tufted Tuber • Women's Health: A World Crisis • Researcher's Legal Battle Ends • The SIDS-Seal Connection • A Nuclear Cure for Nuclear Waste • When Do You Send Blue Roses?

Research News

1614 A Genetic Survey of Vanishing Peoples • Scientific Split Over Sampling Strategy
1616 Yanomami People Threatened
1617 A Core-Mantle Link?
1618 Gambling on a Shortcut to Genome Sequencing
1619 A Well-Rounded Worm: 220 Kilobases and Counting • The Education of C. elegans • Roundworm as Canary?
1620 Can Earth's Internal Heat Drive Ocean Circulation?
Cover. Inspired by Leonardo da Vinci’s “Proportions of the Human Figure According to Vitruvius,” the cover image symbolizes that the creativity of scientists is at the center of technological advances. Scientists’ curiosity about biological processes has often led to discoveries that proved useful for biotechnology. One-half of the figure’s appendages are robot-like, showing that technology is an extension of its creator. The figure holds a flask of microorganisms, an antibody, and oligonucleotide primers, representing some of the tools of biotechnology discussed in this issue; the fistful of dollars signifies the entrepreneurial aspect of biotechnology. See pages 1643 to 1681. [Illustration by Julie Cherry]

1675 Network Rigidity and Metabolic Engineering in Metabolite Overproduction: G. Stephanopoulos and J. J. Vallino

1682 Class II Aminocetyl Transfer RNA Synthetases: Crystal Structure of Yeast Aspartyl-tRNA Synthetase Complexed with tRNA<sup>Asp</sup>: M. Ruff, S. Krishnaswamy, M. Boeblin, A. Poterszman, A. Mitschler et al.


1693 Identification of Widespread Pollution in the Southern Hemisphere Deduced from Satellite Analyses: J. Fishman, K. Fakhruzzaman, B. Cros, D. Nganga

1696 Identity Elements for Specific Aminocetyl of Yeast tRNA<sup>Asp</sup> by Cognate Aspartyl-tRNA Synthetase: J. Pütz, J. D. Puglisi, C. Florentz, R. Giegé

1700 Prevention of Xenograft Rejection by Masking Donor HLA Class I Antigens: D. Faustman and C. Coe

1703 Selective Elimination of HIV-1-Infected Cells with an Interleukin-2 Receptor-Specific Cytotoxin: R. W. Finnberg, S. M. Wahl, J. B. Allen, G. Soman, T. B. Strom, J. R. Murphy, J. C. Nichols

1705 Requirement of Heparan Sulfate for bFGF-Mediated Fibroblast Growth and Myoblast Differentiation: A. C. Rapraeger, A. Krufka, B. B. Olwin

1708 Identification of p53 as a Sequence-Specific DNA-Binding Protein: S. E. Kern, K. W. Kinzler, A. Bruskin, D. Jarosz, P. Friedman, C. Prives, B. Vogelstein


1715 Structural Determinants of Ion Flow Through Recombinant Glutamate Receptor Channels: T. A. Verdoorn, N. Burnashev, H. Monyer, P. H. Seeburg, B. Sakmann

1718 Facilitation of the Induction of Long-Term Potentiation by GABA<sub>B</sub> Receptors: D. D. Mott and D. V. Lewis

Book Reviews

1727 The Invisible Hand, reviewed by L. G. Neuberg: The Creation of the Anglo-Australian Observatory, R. W. Smith

Products & Materials

1731 Transgenic Mice: Organics Removal and Concentration Kit: Configurations Adapter for 3-D Imaging: Primer Design Software: DNA and Protein Sequence Analysis Software Updated: Dot Blotter: Visual Comparison of Chromatograms: Literature