



**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]

## Research Article

- 1675 Network Rigidity and Metabolic Engineering in Metabolite Overproduction: G. STEPHANOPOULOS AND J. J. VALLINO

- 1682 Class II Aminoacyl Transfer RNA Synthetases: Crystal Structure of Yeast Aspartyl-tRNA Synthetase Complexed with tRNA<sup>Asp</sup>: M. RUFF, S. KRISHNASWAMY, M. BOEGLIN, A. POTERSZMAN, A. MITSCHLER *et al.*

## Reports

- 1690 Impacts, Tsunamis, and the Haitian Cretaceous-Tertiary Boundary Layer: F. J.-M. R. MAURRASSE AND G. SEN
- 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 Aminoacylation 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. FINBERG, 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
- 1711 Mapping of DNA Instability at the Fragile X to a Trinucleotide Repeat Sequence p(CCG)<sub>n</sub>: E. J. KREMER, M. PRITCHARD, M. LYNCH, S. YU, K. HOLMAN, E. BAKER, S. T. WARREN, D. SCHLESSINGER, G. R. SUTHERLAND *et al.*
- 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 ■ The Physics of Musical Instruments, D. E. HALL ■ Combustion, O. I. SMITH ■ Books Received

## 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

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