Hoffmann–La Roche has taken a position that threatens our research program in a fundamental way. We simply wish to produce our own Taq polymerase for a specific set of experiments. Our experiments would use large amounts of enzyme for automated PCR. If we were to purchase the enzyme, it would cost several times our entire annual laboratory budget. I have been trying for more than 6 months through discussions with Roche and our university legal staff to find some way to get approval to produce Taq polymerase for these experiments. Our group has the skills and the materials to produce all the enzyme we need in a few days at little cost (which suggests that the price of the enzyme may not be reasonable). Yet we have been told by representatives of Roche that we cannot produce our own enzyme for PCR for such experiments without infringing on their patent and that there is no mechanism for our laboratory or our institution to obtain permission or license to do so. Our experiments have no direct commercial application, yet we have made an offer to share in any potential future patents that might come from the results of our experiments.

So, we are in a dilemma. Our research cannot proceed because the costs of the enzyme are prohibitive, yet we are not allowed to produce enzyme specifically for our own use. For us it is not a question of waiting until next year to buy "the new water bath" referred to by Aldhous; it is a question of closing down an entire program aimed at extending the practical application of new PCR technology. The position taken by the holders of the rights to PCR has created a major impediment to our progress. This position is contrary to the spirit of the traditional relationship between industrial and university research and inimical to the philosophy of the patent process, which is intended to encourage innovation.

Ronald Sederoff
Department of Forestry,
North Carolina State University,
Raleigh, NC 27695–8008

The article "Roche gets tough on illicit sales of PCR reagent" states that the ligase chain reaction (LCR) technology is being readied for market by Abbott Labs. In fact, the intellectual property rights to LCR have not yet been resolved (Rick Weiss, Research News, 29 Nov. 1991, p. 1292). LCR as developed by Francis Barany at Cornell University (*1*) has been licensed by Cornell Research Foundation, Inc. to Applied Biosystems, Inc., which is developing assays based on this technology.

H. Walter Haeussler
Cornell Research Foundation, Inc.,
20 Thornwood Drive, Suite 105,
Ithaca, NY 14850

References

1. F. Barany, *Proc. Natl. Acad. Sci. U.S.A.* **88**, 189 (1991).

■

Learning to Save Lives

The article "Searching for markers on the AIDS trail" by Jon Cohen (News & Comment, 16 Oct., p. 388) about the problem of assessing the efficacy of therapies in AIDS was illuminating. Unfortunately, some readers might mistakenly conclude from it that researchers who have strong reservations about the predictive value of "surrogate markers" for new drug approval are so concerned about scientific niceties that they are prepared to sacrifice lives that could otherwise be spared; this conclusion would be unjustified. The problem is how most effectively to learn enough to be able to save lives, and sentimentalities do not lead us toward a solution.

Surrogate endpoints are sometimes highly effective indicators (reduction of hypertension reduces morbidity and mortality from stroke), but they are sometimes tragically misleading (drugs that reduce the frequency of abnormal heartbeats actually increase mortality). Which of these examples is the more apt parallel for CD4 cell counts we do not yet know, and, in the interest of saving lives, it is essential to find out.

Paul Meier
Department of Statistics,
and *Division of Biostatistics,*
Columbia University, New York, NY 10027

■

The Search for Intelligence

The award of $100 million by NASA for the search for extraterrestrial intelligence (SETI) was viewed with approval, or at least with the spirit of "wouldn't it be nice to discover life elsewhere in the universe?" in the book review (6 Nov., p. 1012) by Ronald N. Bracewell of *Is Anyone Out There?* by Frank Drake and Dava Sobel. The experts on whose recommendation this grant was made were presumably astronomers, physicists, and engineers. Alas, the factors that will determine the success or failure of the project are, as I have argued elsewhere (*1*), biological and sociological. For example, those who think deterministically assume that once life has originated somewhere, intelligence will surely follow, but only one of the approximately 50 billion species that have lived on Earth was able to generate civilizations. Among these approximately 20 civilizations, only one developed electronic technology. I find it

astounding that the go-ahead for this project was given without more broad-based consultation and that such a highly dubious endeavor is supported by NASA in this time of appalling federal debt.

Ernst Mayr
Museum of Comparative Zoology, Harvard University, Cambridge, MA 02138

References

1. E. Mayr, *Naturwiss. Rundsch.* **45**. 264 (1992).

■

Sequence Correction

In our report "Ablation of transplanted HTLV-I tax-transformed tumors in mice by antisense inhibition of NF-κB" (11 Dec., p. 1792) (*1*), note 11 (p. 1795), in which the sequence of the oligodeoxynucleotides (ODNs) selected for antisense inhibition of NF-κB was described, was incorrect. We accidentally listed human NF-κB target sequences [S. M. Ruben *et al.*, *Science* **251**, 1490 (1991)] rather than mouse-specific sequences [for p65, G. P. Nolan *et al.*, *Cell* **64**, 961 (1991); for p50, S. Gosh *et al.*, *ibid.* **62**, 1019 (1990)]. The note should have read, "The ODNs [oligodeoxy nucleotides] for p50 NF-κB were antisense 5′-TCGTCTGCCATGGTGAAGAT-3′ and sense 5′-ATCTTCACCATGGCAGACGA-3′. The corresponding ODNs for p65 were antisense 5′-AAACAGATCGTCCATGGTCA-3′ and sense 5′-TGACCATGGACGATCTGTTT-3′." The ODNs used for tax inhibition of mouse cells were correctly stated in the text. We regret any confusion this error may have caused.

Isao Kitajima
Toshiya Shinohara
James Bilakovics
David A. Brown
Xiao Xu
Michael Nerenberg
Department of Neuropharmacology, The Scripps Research Institute, 10666 North Torrey Pines Road, La Jolla, CA 92037

References

1. I. Kitajima, T. Shinohara, J. Bilakovics, D. A. Brown, X. Xu, M. Nerenberg, *Science* **258**, 1792 (1992).

Corrections and Clarifications

In the Random Samples item "President Clinton gets his science adviser" (5 Feb., p. 758), the senator who asked a "hardball" question about animal research during confirmation hearings for director of the White House Office of Science and Technology Policy was misidentified. That senator was Conrad Burns (R–MT).