Federal Technology Transfer and the Human Genome Project

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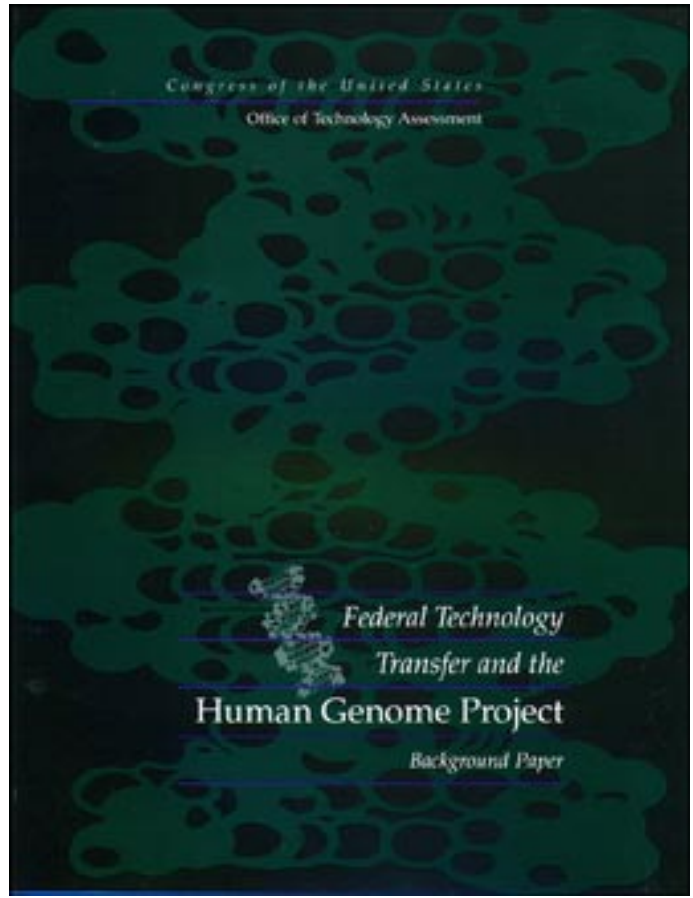

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Foreword

Technology transfer involves converting scientific knowledge into commercially useful products. As an interest of the U.S. government, technology transfer is not a new issue; the federal government has had laws and policies encouraging innovation dating back to the Patent Act of 1790. Nearly two centuries later, the Bayh-Dole Act of 1980 marked the first in a series of measures enacted by Congress to enhance technology transfer of federally funded research. Today, U.S. preeminence in biomedical research and industrial biotechnology stands, in part, as a striking example of successful technology transfer.

Against this backdrop, the United States and other countries have embarked on an estimated 15-year, $3 billion initiative to map and sequence the entire human genetic blueprint, or genome, and since 1985, Congress has appropriated nearly $1 billion for the Human Genome Project. The project has been undertaken with the expectation that enhanced knowledge about genetic disorders, increased understanding of gene-environment interactions, and improved genetic diagnoses can advance therapies for the 5,000 or so currently recognized human genetic conditions. As with other areas of biomedical research, the expectation is that the results of genome research will yield commercially valuable products of benefit to human health. Given the government's investment in genome research, what role has technology transfer played to date?

Federal Technology Transfer and the Human Genome Project analyzes universities', companies', and researchers' experiences and perspectives since enactment of federal laws to enhance technology transfer—especially as it pertains to research funded by the National Institutes of Health and the Department of Energy, the agencies funding U.S. efforts in the Human Genome Project. The background paper was requested by Senator Mark O. Hatfield, Chairman, Committee on Appropriations and Senator Edward M. Kennedy, Ranking Minority, Committee on Labor and Human Resources.

OTA prepared this background paper with the assistance of a panel of advisors and reviewers selected for their expertise and diverse points of view. Additionally, hundreds of individuals cooperated with OTA staff through interviews or by providing written material. These authorities were drawn from government, academia, industry, and professional societies worldwide. OTA gratefully acknowledges the contribution of each of these individuals. As with all OTA reports, however, responsibility for the content is OTA's alone.

ROGER C. HERDMAN
Director

Advisory Panel

LeRoy B. Walters, *Panel Chair*
Center for Bioethics
Kennedy Institute of Ethics
Georgetown University
Washington, DC

Charles Auffray
Genethon
Evry, France

David Botstein
Department of Genetics
Stanford University
Medical Center
Stanford, CA

Robert M. Cook- Deegan
National Academy of Sciences
Washington, DC

Rebecca S. Eisenberg
University of Michigan
Law School
Ann Arbor, MI

James F. Haley, Jr.
Fish and Neave
New York, NY

Marilyn Hartig
Bristol-Myers Squibb
Princeton, NJ

Max D. Hensley
Gilead Sciences, Inc.
Foster City, CA

Thomas D. Kiley
Hillsborough, CA

William A. Linton
Promega Corp.
Madison, WI

Lita L. Nelsen
Massachusetts Institute of
Technology
Cambridge, MA

Deborah Nickerson
University of Washington
Seattle, WA

David A.A. Owen
Medical Research Council
London, United Kingdom

J. David Roessner
Georgia Institute of Technology
Atlanta. GA

Joseph Straus
Max Planck Institut fur
auslandisches und internation-
ales Patent-, Urheber- und
Wettbewerbsrecht
Munich, Germany

J. Craig Venter
The Institute for Genomic
Research
Gaithersburg, MD

Teri F. Willey
Purdue Research Foundation
West Lafayette, IN

Ronald G. Worton
Hospital for Sick Children
Toronto, Canada

Note: OTA appreciates and is grateful for the valuable assistance provided by the advisory panel members. The panel does not, however. necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

Project Staff

Robyn Y. Nishimi
Project Director

MICHAEL G. SNYDER
Study Director

Erica Rose
Analyst

Ami S. Jaeger
In-house Contractor

Ellen L. Goode
Research Analyst

Gerard Fergerson
Milbank/OTA Fellow

Clyde J. Behney
Assistant Director

Michael Gough[1]
Program Manager
Biological and Behavioral Sciences

Denise Dougherty*
Program Director
Education and Human Resources

Nancy Carson[3]
Program Director
Education and Human Resources

Cecile Parker
Office Administrator

Linda Rayford-Journiette
PC Specialist

Jene Lewis
Administrative Secretary

Tamara Kowalski
Secretary

Nanette Rushing
Secretary

CONTRACTORS

David Blumenthal
Massachusetts General Hospital
Boston, MA

John M. Boyle
Schulman, Ronca & Bucuvalas, Inc.
Silver Spring, MD

Nancyanne Causino
Massachusetts General Hospital
Boston, MA

Kathi E. Hanna
Churchton, MD

[1]Until March 1994
[2]Since July 1994
[3]March-July 1994