June 13, 2019

Senator Chris Coons  
218 Russell Senate Office Building  
Washington D.C., 20510

Senator Thom Tillis  
113 Dirksen Senate Office Building  
Washington D.C., 20510

Representative Doug Collins  
1504 Longworth House Office Building  
Washington D.C., 20515

Representative Hank Johnson  
2240 Rayburn House Office Building  
Washington D.C., 20515

Representative Steve Stivers  
2234 Rayburn House Office Building  
Washington D.C., 20515

Dear Sens. Coons and Tillis, and Reps. Collins, Johnson and Stivers:

We are writing to express our concerns about draft legislation recently proposed by the House and Senate Judiciary Committees that would alter the criteria for patent eligibility in the US, in part by abrogating conclusions drawn from several recent unanimous decisions by the Supreme Court.

We fear that the consequent changes in eligibility would substantially increase the numbers and kinds of U.S. patents, producing an unintended, detrimental effect on the conduct of basic scientific research. These changes are likely to undermine a remarkably successful tradition in which discovery of the fundamental features of nature proceeds in a generally open fashion, with little or no intellectual property protection, allowing inventors to take full advantage of discoveries about the natural world in order to make products that contribute to our nation’s economic growth and well-being.
The signatories to this letter include biomedical scientists who have advanced our understanding of basic life processes, largely through federally supported work in the academic or not-for-profit sector; others who have developed therapeutics, diagnostics, and other medical products in commercial settings; and many who have worked in both sectors, as indicated by the listed affiliations. We all endorse the importance of providing patent protection for inventions of many kinds, not just those in the biomedical arena, that conform to historical standards for eligibility; and we accept the idea that those standards need periodic review. But we fear that any legislation, like the current proposal, that appears to allow the patenting of natural materials (like genes), natural processes, and even untested ideas, may hamstring basic science and slow discovery, thereby compromising the nation’s ability to enhance the quality of health care and foster economic progress.

In situations that bring the interests of different groups into conflict about the conduct of science, it has often proven useful for Congress to ask the government’s long-standing advisor on science policy, the National Academy of Sciences (NAS), to study the matter and to make recommendations. A recent review of its published work shows that the issues raised by the proposed legislation have not been previously examined by the NAS.

We strongly urge Congress to direct the NAS to perform a thorough study of the nation’s requirements for patent eligibility and of the draft proposal’s potential consequences for our country’s science and industry, before enacting any relevant legislation.

David Baltimore, Ph.D. +*
Professor of Biology, California Institute of Technology
Retired Member, Board of Directors of Amgen, Inc.

Harold Varmus, M.D. +*
Professor of Medicine, Weill Cornell Medicine
Board of Directors, Surrozen Inc.

Rafi Ahmed, Ph.D.
Professor of Microbiology and Immunology, Emory University

Bruce Alberts, Ph.D. *
Professor Emeritus of Biochemistry and Biophysics, UCSF

Frederick W. Alt, Ph.D.
Professor of Pediatrics and Genetics, Harvard Medical School

Victor Ambros, Ph.D.
Professor of Molecular Medicine, University of Massachusetts Medical School

Angelika Amon, Ph.D.
Professor of Biology, Massachusetts Institute of Technology

David J. Anderson, Ph.D.
Professor of Biology, California Institute of Technology

Nancy Andrews, M.D., Ph.D.
Professor of Pediatrics, Duke University
Board of Directors, Novartis

Richard Axel, M.D. +
Professor, Columbia University

John D. Baldeschwieler, Ph.D. *
Professor Emeritus of Chemistry, California Institute of Technology

Cori Bargmann, Ph.D.
Professor, The Rockefeller University

Jacqueline K. Barton, Ph.D. *
Professor of Chemistry, California Institute of Technology
Board of Directors, Dow Inc.

Jeremy Berg, Ph.D.
Editor-in-Chief Science, AAAS

Paul Berg, Ph.D. +*
Professor Emeritus of Biochemistry, Stanford University School of Medicine
Retired Member, Board of Directors, Gilead Sciences, Inc.

Robert J. Birgeneau, Ph.D.
Chancellor Emeritus, University of California, Berkeley

J. Michael Bishop, Ph.D. +*
Chancellor Emeritus, University of California, San Francisco  
Retired Member, Scientific Advisory Board, Mitotix

Jeffrey Bluestone, Ph.D.
Professor of Metabolism and Endocrinology, UCSF

Donald Brown, M.D.
Former Director, Carnegie Institution for Science

Michael S. Brown, M.D. +*
Professor of Molecular Genetics, UT Southwestern Medical Center

Patrick Brown, M.D., Ph.D.
Professor Emeritus, Stanford University School of Medicine
CEO and Founder, Impossible Foods

Joan S. Brugge, Ph.D.
Professor of Cell Biology, Harvard Medical School

Albert Carnesale, Ph.D.
Chancellor Emeritus, University of California, Los Angeles

Howard Chang, M.D., Ph.D.
Professor of Cancer Genomics, Stanford University School of Medicine
Co-founder, Accent Therapeutics and Epinomics

James E. Darnell, M.D. *
Professor Emeritus of Molecular Cell Biology, Rockefeller University

Mark E. Davis, Ph.D.
Professor of Chemical Engineering, California Institute of Technology

Titia de Lange, Ph.D.
Professor of Cell Biology and Genetics, The Rockefeller University
Retired Member, Board of Directors, Nestle, S.A.

Peter B. Dervan, Ph.D. *
Professor of Chemistry, California Institute of Technology
Retired Member, Board of Directors, Beckman Coulter Inc.

David S. Eisenberg, D. Phil.
Professor of Biological Chemistry, University of California, Los Angeles

Charles Elachi, Ph.D.
Professor Emeritus, Electrical Engineering and Planetary Science, Caltech
Former Director, Jet Propulsion Lab

Ronald M. Evans, Ph.D.
Professor, Gene Expression Laboratory, Salk Institute for Biological Studies

Gerald R. Fink, Ph.D.
Professor of Genetics, Massachusetts Institute of Technology
Founder, Boragen and Ironwood Pharmaceuticals

Don Ganem, M.D.
Professor Emeritus of Medicine and Microbiology, UCSF
Vice President and Global Head of Infectious Diseases Research, Novartis

K. Christopher Garcia, Ph.D.
Professor of Molecular and Cellular Physiology, Stanford University School of Medicine

David Goeddel, Ph.D.
Managing Partner, The Column Group
Board of Directors, NGM Biopharmaceuticals, Exonics Inc.

Stephen P. Goff, Ph.D.
Professor of Microbiology and Immunology, Columbia University

Joseph L. Goldstein, M.D. +*
Professor of Molecular Genetics, UT Southwestern Medical Center

Zach W.Hall, Ph.D.
Professor Emeritus, UCSF
Board of Directors, Nitrome Biosciences, Inc.

Stephen C. Harrison, Ph.D.
Professor of Basic Biomedical Sciences, Harvard Medical School

David Haussler, Ph.D.
Professor of Biomolecular Engineering, University of California, Santa Cruz

James R. Heath, Ph.D.
President, Institute for Systems Biology

David Hirsh, Ph.D.
Professor of Biochemistry and Molecular Biophysics, Columbia University
Board of Directors, Cellphire, Inc.

Lee Hood, M.D., Ph.D.*
Professor, Institute for Systems Biology

Richard Hynes, Ph.D.
Professor of Cancer Research, M.I.T.
Member, Scientific Resource Board, Amgen and Genentech

Tyler Jacks
Director, Koch Institute for Integrative Cancer Research, M.I.T.

Rudolf Jaenisch, M.D.*
Professor of Biology, M.I.T

Thomas J. Kelly, M.D., Ph.D.
Chair of Cancer Research, Memorial Sloan-Kettering Cancer Center

Judith Kimble, Ph.D.
Professor of Biochemistry, University of Wisconsin-Madison

Mark Kirschner, Ph.D.
Professor of Systems Biology, Harvard Medical School

John Kuriyan, Ph.D.
Professor of Molecular and Cell Biology, University of California, Berkeley
Co-founder, Nurix Therapeutics Inc.

Eric Lander, Ph.D.
President, Broad Institute of M.I.T and Harvard

Story Landis, Ph.D.
Former Director, National Institute of Neurological Disorders and Stroke

Robert J. Lefkowitz, M.D. +*
Professor of Medicine, Duke University Medical Center
Board of Directors, Lexicon Pharmaceuticals

Michael Lenardo, M.D.
Adjunct Professor of Pathology, University of Pennsylvania
Richard P. Lifton, M.D., Ph.D.
President, The Rockefeller University
Board of Directors, Roche and Genentech

Dan R. Littman, M.D., Ph.D.
Professor of Molecular Immunology, New York University School of Medicine

Harvey Lodish, Ph.D.
Professor of Biological Engineering, Massachusetts Institute of Technology
Founder, Genzyme, Millennium and Rubius Pharmaceutical Cos.

Tom Maniatis, Ph.D.
Professor of Biochemistry and Molecular Biophysics, Columbia University
Scientific Director and CEO, New York Genome Center

Diane J. Mathis, Ph.D.
Professor of Immunology, Harvard Medical School

Stephen Mayo, Ph.D.
Professor of Biology and Chemistry, California Institute of Technology
Co-founder, Xencor, Inc.

Frank McCormick, Ph.D.
Professor of Tumor Biology and Cancer Research, UCSF
Co-Founder, BridgeBio Pharma, Inc.

Elliot M. Meyerowitz, Ph.D.
Professor of Biology, California Institute of Technology

David G. Nathan, M.D.
President Emeritus, Dana-Farber Cancer Institute
Professor of Pediatrics and of Medicine, Harvard Medical School

Dianne K. Newman, Ph.D.
Professor of Biology & Geobiology, California Institute of Technology

Elizabeth G. Nabel, M.D.
President, Brigham Health

Garry P. Nolan, Ph.D.
Professor of Microbiology and Immunology, Stanford University School of...
Medicine

Michael Nussenzweig, M.D., Ph.D.
Professor of Molecular Immunology, The Rockefeller University

Erin O’Shea, Ph.D.
President, Howard Hughes Medical Institute

David C. Page, M.D.
Director, Whitehead Institute for Biomedical Research
Board of Directors, PepsiCo.

Edward E. Penhoet, Ph.D.
Dean Emeritus of the University California, Berkeley School of Public Health
Co-founder and CEO of Chiron Corporation (retired)

Charles L Sawyers, M.D.
Memorial Sloan Kettering Cancer Center
Board of Directors, Novartis

Lucy Shapiro, Ph.D. *
Professor of Developmental Biology, Stanford University School of Medicine
Board of Directors, Pacific Biosciences, Inc.

Maxine Singer, Ph.D. *
President Emerita, Carnegie Institution for Science
Retired member, Board of Directors, Johnson & Johnson

Joan Steitz, Ph.D.
Professor of Molecular Biophysics and Biochemistry, Yale University

Bruce Stillman, Ph.D.
President and CEO, Cold Spring Harbor Laboratory

Jack W. Szostak, Ph.D. +
Professor of Genetics, Harvard Medical School
Co-Founder, Ra Pharmaceuticals, Inc.

Shirley M. Tilghman, Ph.D.
President Emerita, Princeton University
Ronald Vale, Ph.D.
Professor, University of California San Francisco
Co-Founder, Cytokinetics Inc.

Irving L. Weissman, M.D.
Director, Institute for Stem Cell Biology and Regenerative Medicine, Stanford University
Cofounder, Cellerant Inc., Forty Seven Inc., Stem Cells Inc. SyStemix Inc.

Owen Witte, M.D.
Professor, University of California, Los Angeles

Barbara J. Wold, Ph.D.
Professor of Molecular Biology, California Institute of Technology

Keith R. Yamamoto, Ph.D.
Professor of Cellular & Molecular Pharmacology, UCSF
Retired member, Amgen Scientific Advisory Board

Elias Zerhouni, M.D.
Professor Emeritus, Johns Hopkins University
Former Director, National Institutes of Health
Former President, Global Research & Development, Sanofi

+ Nobel Prize
* National Medal of Science