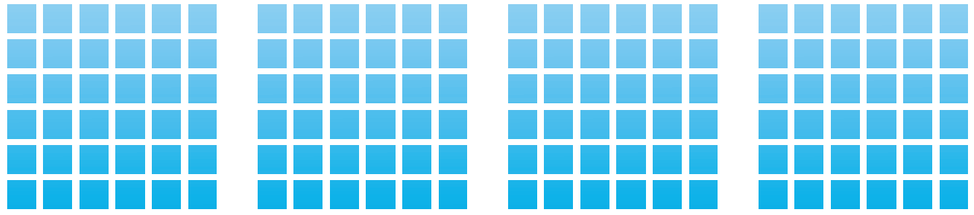
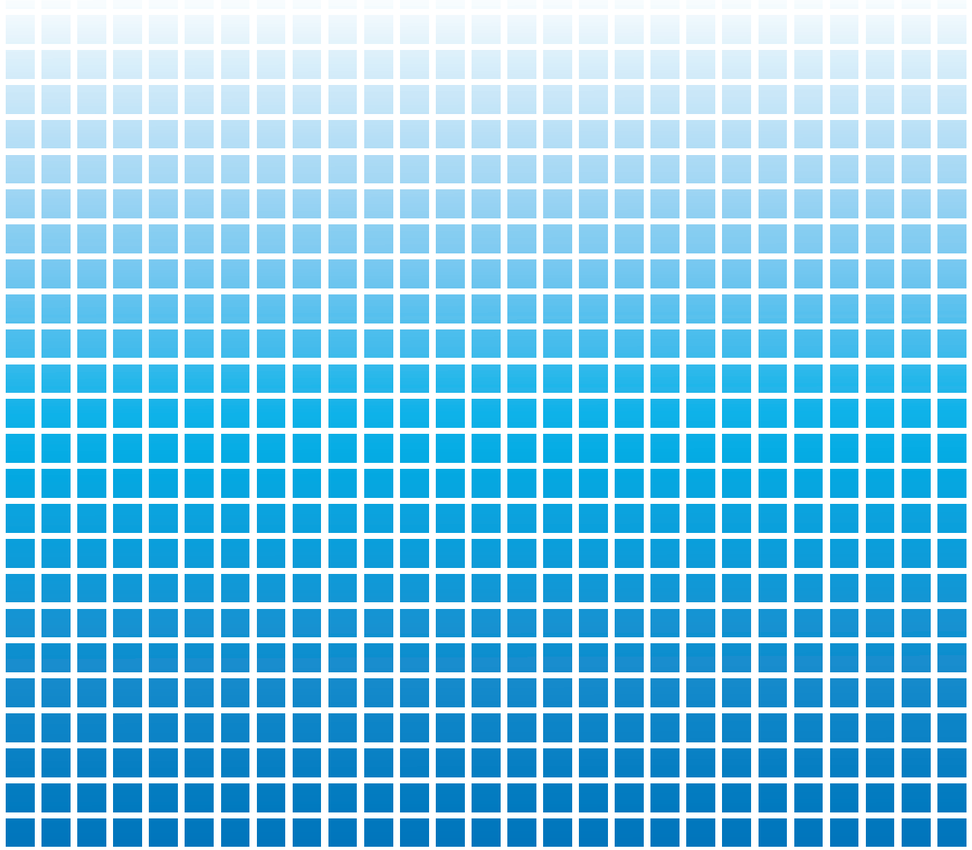




THE TOP 100

LIVING CONTRIBUTORS TO BIOTECHNOLOGY

Over the last 30 years, a small group of visionaries in science, technology, legislation and business have driven the development of biotechnology. Today, in the midst of tremendous advances in medicine and agriculture, this exhibition and accompanying brochure pays tribute to the leaders that have shaped the biotechnology industry.

The Top 100 Living Contributors to Biotechnology have been selected by their peers and through independent polls conducted by Reed Exhibitions, a division of Reed Elsevier. Senior staff throughout the biotechnology industry have identified the most influential and inspirational pioneers. The results are presented here alphabetically.

To those named in the Top 100, and the many other contributors not listed, the biotechnology community is deeply appreciative.

MICHAEL ASHBURNER

Michael Ashburner is Professor of Biology at the University of Cambridge where he received his undergraduate degree and PhD, both in genetics. Ashburner's current major research interests are the structure and evolution of genomes. Most of his research has been with the model organism *Drosophila melanogaster*, about which he has written the book *Drosophila: A Laboratory Handbook*. His research has covered a range of subjects, from classical genetics, developmental biology, cytogenetics to evolution, at both molecular and organismal levels. Ashburner is a founder of FlyBase, and of the Gene Ontology Consortium. From 1994-2001 Ashburner served first as research coordinator and then joint-head of the European Molecular Biology Laboratory - European Bioinformatics Institute at Hinxton, Cambridge. Ashburner is a Fellow of the Royal Society of London and of the Academia Europeae; he is a foreign honorary member of the American Academy of Arts and Sciences, a member of the European Molecular Biology Organisation, and past president of the British Genetical Society. He also is a Professorial Fellow of Churchill College, Cambridge.

DAVID BALTIMORE

David Baltimore, one of the world's most distinguished biologists and winner of the 1975 Nobel Prize for his work in virology, became president of the California Institute of Technology in 1997. Previously he was a professor at the Massachusetts Institute of Technology, founding director of the Whitehead Institute for Biomedical Research at MIT, and the president of Rockefeller University. His career has been distinguished by his dual contribution to biological research and to national science policy. He helped pioneer the molecular study of animal viruses, and his research in this field had profound implications for understanding cancer and, later, AIDS. In 1999 he was awarded the National Medal of Science, he was a co-recipient of the 2000 Warren Alpert Foundation Prize and was awarded the 2002 AMA Scientific Achievement Award.

SEYMOUR BENZER

Seymour Benzer instilled the fundamental idea that genes control behaviour. He began his career studying gene structure and code, developing a method to determine the detailed structure of viral genes in 1955. He then switched to the field of neurogenetics, focusing on the inheritance of behaviour. Benzer used gene mutations to dissect the underlying events in the nervous system of the fruit fly, *Drosophila*. His work led to the discovery of specific genes that participate in various behavioral phenomena including control of the biological clock, and those important in the prevention of neurodegeneration. At age 82, Professor Benzer continues his research focusing on the problem of aging as the James Griffin Boswell Professor of Neuroscience, Emeritus at the California Institute of Technology.

Benzer instilled the fundamental idea that genes control behaviour.

PAUL BERG

Paul Berg is Cahill Professor in Cancer Research, Emeritus, at the Stanford University School of Medicine, and director emeritus of the Beckman Centre for Molecular and Genetic Medicine. He is one of the principal pioneers in the field of "gene splicing." Berg, along with his colleagues Walter Gilbert and Frederick Sanger, was awarded the 1980 Nobel Prize in Chemistry for developing methods that make it possible to map the structure and function of DNA. His work on the genetic apparatus that directs the synthesis of proteins earned Berg the Eli Lilly Award in Biochemistry in 1959 and the California Scientist of the Year Award in 1963. He has twice been honored with the Henry J. Kaiser Award for Excellence in Teaching at the Stanford University School of Medicine and has won the Roche Institute for Molecular Biology's V. D. Mattia Prize, the Sarasota Medical Awards for Achievement and Excellence, the Annual Award of the Gairdner Foundation, the Albert Lasker Basic Medical Research Award, and the New York Academy of Sciences Award. He also has won the American Association for the Advancement of Science Scientific Freedom and Responsibility Award, the National Medal of Science, and the National Library of Medicine Medal.

RENE BERNARDS

Rene Bernards has worked for 25 years in oncology research, most recently developing functional genetic approaches to aid cancer treatment. His work at Utrecht University focuses on the creation of genome-wide genetic screens for the identification of genes that act in cancer-relevant pathways. It led to the discovery in 2003 of a 70-gene fingerprint that may predict the recurrence of breast cancer in certain patients, improving the accuracy with which doctors can predict how a patient's cancer will progress. Bernards is the head of the Division of Molecular Carcinogenesis at the Netherlands Cancer Institute and CSO of Agendia.

KAREN BERNSTEIN

Karen Bernstein is the co-founder, Chairman and Editor-in-Chief of BioCentury Publications Inc. which provides business-oriented information services for life science executives and investors. For 10 years BioCentury has published business intelligence affecting decisions made by bio-industry leaders and investors around the world. Bernstein has researched and written on biotechnology topics since 1987, she previously was senior editor of *Bio World* and director of research at the Centre for Science Information in San Francisco. She has held faculty positions at Stanford University, Mills College, the University of California at Santa Cruz and San Jose State University.

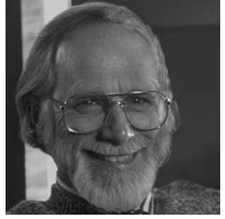
ERNESTO BERTARELLI

Ernesto Bertarelli is CEO and Chairman of Serono. He has transformed Serono into the third largest biotech company in the world, with revenues doubled and profits increasing tenfold under his leadership. Bertarelli broadened Serono's product range beyond fertility treatments, boosting research spending on drugs to combat diseases such as rheumatoid arthritis and multiple sclerosis. He is a member of the Harvard Medical School Biological Chemistry and Molecular Pharmacology Advisory Council, and a member of the PhRMA and BIO boards in the United States. He is also the President of the Alinghi team that successfully won the America's Cup in March 2003.

Bertarelli has transformed Serono into the third largest biotech company in the world...

GORDON BINDER

Gordon Binder is the former CEO of Amgen. During his tenure as first CFO then CEO, Amgen grew from a start-up company with just 50 employees to rank within the top 20 pharmaceutical companies in worldwide revenues. He has been chairman of both BIO and PhRMA in the United States. He is currently serves on the boards of the Massachusetts Institute of Technology and the California Institute of Technology, the only person to hold positions on both. Now a venture capitalist with Coastview Capital LLC, headquartered in Los Angeles, Binder retired from Amgen in 2000.

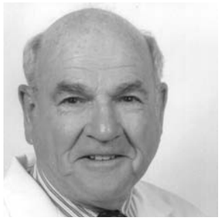


J. MICHAEL BISHOP

J. Michael Bishop, is Chancellor, Arthur and Toni Rembe Rock Distinguished Professor, and Professor of Microbiology and Immunology at the University of California, San Francisco. A recognized authority on the molecular mechanisms of cancer, he shared numerous awards with his colleague Harold Varmus, including the 1982 Albert Lasker Award for Basic Medical Research, the 1984 Alfred P. Sloan Jr. Prize from the General Motors Cancer Research Foundation, the 1984 Gairdner Foundation International Award, and the 1989 Nobel Prize in Physiology or Medicine. Bishop has received the 2003 National Medal of Science; is a member of the National Academy of Sciences, the Institute of Medicine, the American Academy of Arts and Sciences, and the American Philosophical Society; and holds honorary degrees from several universities. He continues to teach medical students and supervise a research team studying the molecular pathogenesis of cancer. He is the author of more than 300 research publications and reviews, and of the book *How to Win the Nobel Prize: An Unexpected Life in Science.*

ELIZABETH BLACKBURN

Elizabeth Blackburn is a leader in the area of telomere and telomerase research, and is a world-renowned expert on both their influence in cells and their implications for human health. She has made several key discoveries in different aspects of telomere function and biology, including their molecular structure and discovery of the ribonucleoprotein enzyme, telomerase. More recently, Blackburn has been applying her insights into telomere biology to the development of a new anti-cancer therapy that forces cancerous cells with active telomerase to make errors during telomere synthesis, effectively triggering cellular suicide. Blackburn is currently the Morris Herzstein Professor of Biology and Physiology in the Department of Biochemistry and Biophysics at the University of California, San Francisco, and also a non-resident Fellow of the Salk Institute for Biological Studies.



BARUCH S. BLUMBERG

Baruch S. Blumberg is a Distinguished Scientist at Fox Chase Cancer Centre, and University Professor of Medicine and Anthropology at the University of Pennsylvania. He has served as director of the National Aeronautics and Space Administration (NASA) Astrobiology Institute and in 2001 was Senior Advisor to the Administrator of NASA; was Master of Balliol College, Oxford University, (1989-1994) and was on the staff of the National Institutes of Health. (1957-1964). Blumberg received the Nobel prize in Medicine in 1976 for work on the hepatitis B virus (HBV). Baruch and colleagues identified HBV in the mid 1960s. Diagnostics and a vaccine were invented soon afterwards; they have a wide application in clinical and preventive medicine. The vaccine has been administered to more than one billion people in over 150 national programs and has resulted in a dramatic drop in the infection rate and in deaths from liver disease due to HBV including liver cancer.

SIR WALTER BODMER

Sir Walter Bodmer's interest in statistics spurred him into the world of genetics and subsequently obtained a PhD in population genetics under the inspiring influence of Sir Ronald Fisher at Oxford University. In 1970 Walter took up the chair of Genetics at Oxford. In 1979, he became Director of Research at the Imperial Cancer Research Fund in London and in 1991 was appointed Director in General of the Fund. He retired from his position in 1996 to become Principal of Hertford College, Oxford from which he retired in August 2005. He was made a Fellow of the Royal Society in 1974, and received a knighthood in 1986. Sir Walter, with Julia Bodmer, was a pioneer in the development of the human tissue typing, or HLA system and has worked to understand how cancer cells can escape from attack by the immune system. His current scientific work at his laboratory, the CRUK Cancer & Immunogenetics Laboratory at the Weatherall Institute of Molecular Medicine, Oxford, is aimed at working out the mechanisms that underlie the pathogenesis of colorectal cancer using a large collection of colorectal cancer cell lines, as well as primary tumour material.

JOSHUA BOGER

Joshua Boger is founder, Chairman, President, and CEO of Vertex Pharmaceuticals. Prior to founding Vertex in 1989, Boger held the position of Senior Director of Basic Chemistry at Merck Sharp & Dohme Research Laboratories in Rahway, N.J., where he headed both the Departments of Biophysical Chemistry and Medicinal Chemistry of Immunology & Inflammation. During his 10 years at Merck, Boger developed an international reputation as a leader in the application of computer modeling to the chemistry of drug design and was a pioneer in the use of structure-based rational drug design as the basis for drug discovery programs. Boger holds a bachelor of arts in chemistry and philosophy from Wesleyan University (Connecticut) and a master's and doctorate degrees in chemistry from Harvard University. His postdoctoral research in molecular recognition was performed in the laboratories of the Nobel-prize winning chemist, Jean-Marie Lehn in Strasbourg, France. He holds 31 U.S. patents in pharmaceutical discovery and development. He was named one of 40 "Technology Pioneers" worldwide for the 2003 World Economic Forum in Davos, Switzerland.

NORMAN BORLAUG

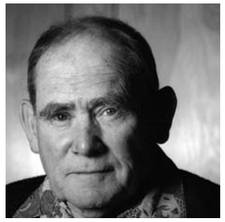
Norman Borlaug is often referred to as the father of the Green Revolution. Borlaug headed a team that developed a breed of high-yield dwarf wheat able to resist an extensive range of plant pests and diseases. Their work in the mid-1960s led to the introduction of his grain and modern agricultural techniques to Mexico, Pakistan, and India; hugely improving the food-security of these nations. For this, Borlaug is credited with saving over 1 billion lives from death by starvation, and was awarded the Nobel Peace Prize in 1970.

DAVID BOTSTEIN

David Botstein is Director and Anthony B. Evnin Professor of Genomics at the Lewis-Sigler Institute for Integrative Genomics, Princeton University. He was as Vice President, Science, at Genentech and has chaired Stanford University's Department of Genetics. Botstein's research has centred on genetics, especially the use of genetic methods to understand biological functions. Botstein's current research effort is devoted to the study of yeast biology at the system level. In August 2004, the National Institute of General Medical Sciences (NIGMS), part of the National Institutes of Health, announced establishment of a Centre of Excel-lence in Complex Biomedical Systems Research at Princeton, headed by Botstein. The centre will serve as the hub, and provide infrastructure for, research and teaching programs at the interface of biology and the more quantitative and physical sciences.

HERBERT BOYER

Herbert Boyer is a pioneer both in research and industry. In 1973 Boyer worked with Stanley Cohen to show that genetically engineered DNA molecules may be cloned in foreign cells, a technique called recombinant DNA engineering. Their experiments marked the beginning of genetic engineering and helped launch the biotechnology industry, with the technique used in medicine and pharmacology, industry and agriculture. In 1976, Boyer joined venture capitalist Robert Swanson to create the biotechnology firm Genentech. Boyer is currently the chairman of the Genentech Foundation for Biomedical Sciences, and serves as Vice-Chairman of the Board of Directors of Allergan.



SYDNEY BRENNER

Sydney Brenner is known for his substantial contributions to the field of molecular genetics, including the identification of mRNA, the demonstration that the genetic code consists of triplets, and the development of the nematode *C. elegans* as a model research organism. His work with this roundworm has garnered insights into aging, nerve cell function, organ development and controlled cell death, and for this he received the 2002 Nobel Prize. Most recently Brenner has been studying vertebrate gene and gene evolution, researching novel ways to analyse gene sequences and creating a new insight into the evolution of vertebrates. Brenner is currently Distinguished Professor at the Salk Institute for Biological Studies and Adjunct Professor of Biology at the University of California, San Diego.

Brenner's work with this roundworm has garnered insights into aging, nerve cell function, organ development and controlled cell death ...

G. STEVEN BURRILL

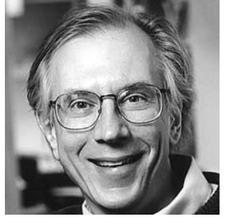
G. Steven Burrill is CEO of Burrill & Company, a South San Francisco-based life sciences merchant bank with over $500 million under management. In 2002, Mr. Burrill was recognized as the biotech investment visionary by *Scientific American* magazine (The *Scientific American* 50). He currently serves as Chairman of the Boards of Icoria, Pharmasset, and Pyxis Genomics; and is a member of the Boards of Directors of Catalyst Biosciences, DepoMed, Galapagos Genomics, Targacept, and Third Wave Technologies. Prior to founding Burrill & Company in 1994, he spent 28 years with Ernst & Young, directing and coordinating the firm's services to clients in the biotechnology/life sciences/high technology/manufacturing industries.

BROOK BYERS

Brook Byers is a venture capital investor with Kleiner Perkins Caufield & Byers (KPCB). He has been closely involved with more than 40 new technology-based ventures, over half of which have already become public companies. He formed the first life sciences practice group in the venture capital profession in 1984 and led KPCB to become a premier venture capital firm in the medical, healthcare, and biotechnology sectors. KPCB has invested in and helped build over 90 life sciences companies which are developing hundreds of products to treat major underserved medical needs representing huge markets in the nearly $2 trillion healthcare sector. Brook was the founding President and then Chairman of four biotechnology companies which were incubated in KPCB's offices and went on to become public companies with an aggregate market value over $8 billion.

RONALD CAPE

Ronald Cape was the co-founder of Cetus, acting as Chairman of the board for 20 years and CEO for 13 years until the company merged with Chiron in 1991. He was a founding member of the Biotechnology Industry Organisation (BIO) and served as its President for three years. He also was the founding Chairman of Darwin Molecular Corp., which was later sold to Chiroscience. Cape has been an investor in the field of biotechnology for several decades and now serves on the Board of Directors of a number of companies, including Chiroscience and Cogito. He is on the Board of Trustees of research institutes including the Whitehead Institute at MIT.



JIMMY CARTER

Jimmy Carter, the 39th President of the United States, is an outspoken supporter for the biotech industry and the founder of The Carter Centre, dedicated to advancing human rights and alleviating unnecessary human suffering. The centre, led by Carter, is committed to fighting disease and improving quality of life through international health programs that focus on infectious disease control and prevention, Guinea worm disease eradication, and agricultural training to multiply crop yields.

THOMAS R. CECH

Thomas R. Cech is President of the Howard Hughes Medical Institute. In 1982 Tom Cech and his research group announced the discovery of self-splicing RNA provided the first exception to the long-held belief that biological reactions are always catalyzed by proteins. This finding that an RNA molecule from *Tetrahymena,* a single-celled pond organism, cut and rejoined chemical bonds in the complete absence of proteins. Thus RNA was not restricted to being a passive carrier of genetic information, but could have an active role in cellular metabolism. Only years later was it recognized that RNA catalysts, or "ribozymes," might provide a new class of highly specific pharmaceutical agents, able to cleave and thereby inactivate viral RNAs or other RNAs involved in disease. Cech continues research on ribozyme structure and on telomerase in his Boulder, Colorado laboratory.

JULIO E. CELIS

Julio E. Celis is Professor and Director of the Institute of Cancer Biology at the Danish Cancer Society and is generally recognized as on of the founding fathers of proteomics. Julio Celis interest in proteomics started in 1973 while at the laboratory of molecular biology in Cambridge. His group in Aarhus, introduced the use of protein identification techniques to map HeLa cell proteins and developed the first protein database in 1981. In the early 1980s, the group also laid out foundations for proteomics by annotating the databases with information gathered from applications to problems in cell biology. Together with J. Vandekerckhove he later introduced the use of large scale protein identification using microsequencing. Celis' group in Copenhagen has pioneered the use of proteomics to the analysis of bladder and breast cancer and introduced the concept of discovery-driven translational cancer research.

DAVID CHISWELL

David Chiswell was a founder of Cambridge Antibody Technology (CAT), one of the premier emerging European biotechnology companies formed in 1990. He remained responsible for operational management for 12 years, serving as CEO from 1996 to 2002. Since leaving, Chiswell has devoted his time to encouraging the growth of the UK bioscience industry. He is currently chairman of the BioIndustry Association (BIA), holds positions as Chairman of Arrow Therapeutics and as a non-executive director of Arakis, both UK based biotechnology companies. He also acts as advisor to several international private equity funds.

DANIEL COHEN

Daniel Cohen led the team of researchers responsible for generating the first physical mapping of the human genome. Whilst working as Scientific Director of the Centre for the Study of Human Polymorphisms (CEPH), Cohen conceived and implemented a highly innovative and effective strategy to map the human genome. By December 1993 he was able to announce that the CEPH had won the race to produce the first physical map of the human genome. Cohen was also a co-founder of Millennium Pharmaceuticals. He has been the Principal Scientist at the Paris-based Genset since 1996.

Daniel Cohen conceived and implemented a highly innovative and effective strategy to map the human genome.

STANLEY COHEN

Stanley Cohen is the Kwoh-Ting Li Professor of Genetics and Professor of Medicine at Stanford University. Cohen and his colleague Herbert W. Boyer revolutionized the disciplines of biology and chemistry in 1973 with their discovery of methods to transplant and clone genes, and are the inventors on the basic patents underlying the field of genetic engineering. Among Cohen's awards are the National Medal of Science, the National Medal of Technology, the Lasker Award for Basic Medical Research, the Wolf Prize in Medicine, the Lemelson-MIT Prize, the Albany Medical Center Prize in Medicine and Biomedical Research, and the Shaw Prize in Life Science and Medicine. He is a member of the U.S. National Academy of Sciences, and the National Inventors Hall of Fame

DESIRE COLLEN

Desire Collen, a world-renowned expert in cardiovascular disease, is the founder and CEO of ThromboGenics, a biopharmaceutical company dedicated to the development of innovative pharmaceuticals for the prevention and treatment of vascular diseases. He also directs the Molecular and Cardiovascular Medicine Group at University of Leuven, Belgium. Collen's laboratory was the first to produce clinical supply of tissue plasminogen activator (tPA), one of the most effective drugs for thrombolytic therapy of acute myocardial infarction.

FRANCIS S. COLLINS

Francis S. Collins is Director of the National Human Genome Research Institute (NHGRI) at the US National Institutes of Health. He oversaw the Human Genome Project, an international enterprise that finished the human genome sequence in April 2003. Building upon that success, Collins is leading NHGRI's effort to use genomic knowledge to improve human health. Among other projects, his lab is currently searching for genes that contribute to type II diabetes. Collins' previous research has included the identification of genes responsible for cystic fibrosis, neurofibromatosis, Huntington's disease, and more recently multiple endocrine neoplasia type I (MEN1), and most recently, the gene that causes Hutchinson-Gilford progeria syndrome, a dramatic form of premature aging.

SIR DAVID COOKSEY

Sir David Cooksey has been in venture capital fund management since 1981 when he founded Advent Venture Partners. He is Managing Partner. Advent invests in early stage companies with outstanding growth prospects in the life sciences, information technology and telecommunications industries. Previously he worked at De La Rue where he headed an early management buyout in 1971 of a company which was involved in medical device manufacturing. He was the first Chairman of the British Venture Capital Association in 1983-84. He is currently Chairman of the European Private Equity and Venture Capital Association for 2005/6. In 2003 he chaired the UK Biotechnology Innovation and Growth Taskforce, which published its report on the future of the UK biosciences industry in November 2003. He retired earlier this year as a Director of the Bank of England where he served for 11 years.

STANLEY CROOKE

Stanley Crooke is Founder, Chairman and CEO of Isis Pharmaceuticals, a development-stage biopharmaceutical company focused on a new paradigm in drug discovery, antisense oligonucleotides. Since Crooke and colleagues founded Isis in 1989, it has pioneered RNA based drug discovery including all mechanisms of antisense technology and small molecule interactions with RNA, and has pioneered a novel infectious disease diagnostic technology called TIGER. Prior to founding Isis, Crooke was President of R&D for SmithKline Beecham. Prior to joining SKB, Crooke helped establish the anticancer drug discovery and development program at Bristol Myers.

ROBERT JOSEPH DOLE

Robert Joseph Dole, political leader and statesman, was elected to the US Senate in 1968 and served there through 1996. His distinguished career in the US House and Senate includes, among many assignments, long standing service as a member of the House and Senate committees on agriculture, and Chair, Senate Finance Committee. In 1984, he was elected Senate majority leader, and thereafter served four consecutive Congresses as Senate Republican leader, until he retired from the Senate in 1996 to seek the Republican nomination for the Presidency. In addition to his vigorous law practice in the nation's capital, Dole maintains a strong commitment to public service.

K. ERIC DREXLER

K. Eric Drexler is often described as the father of nanotechnology. His theoretical research in this field has been the basis for numerous journal articles and books including *Engines of Creation* and *Nanosystems: Molecular Machinery, Manufacturing, and Computation*. In 1981, Drexler described an approach to implementing productive nanosystems in the *Proceedings of the National Academy of Sciences*. This paper established fundamental principles of protein engineering. Drexler founded the Foresight Institute, a non-profit organisation focused on nanotechnology, and currently serves as Chief Technical Advisor to Nanorex, a company developing software for molecular engineering. He was awarded a PhD from MIT in Molecular Nanotechnology (the first degree of its kind).

SIR CHRISTOPHER THOMAS EVANS

Sir Christopher Thomas Evans is the Founder and Chairman of Merlin Biosciences. He is regarded as one of Europe's leading biotechnology entrepreneurs and has a proven track record of establishing successful, high-quality science companies, eight of which have been taken public. Sir Christopher's considerable contributions to the biotechnology industry were honoured with a knighthood in 2001. Sir Christopher is highly regarded for his efforts to encourage small business and entrepreneurship throughout the UK and Europe. In addition to being voted Cambridge Businessman of the Year twice, he has been awarded the BVCA Cartier Venturer Award for Technology start-ups, the youngest recipient ever of the SCI Centenary Medal, the RSC Interdisciplinary Medal, and the Henderson Memorial Medal.

ANTHONY EVNIN

Anthony Evnin is Managing General Partner of Venrock Associates, where he has worked since 1974, focusing largely on biotechnology and related life sciences. Evnin serves on the boards of several public and private companies including Memory Pharmaceuticals, Renovis, Sunesis Pharmaceuticals, and Icagen. He led Venrock´s investment in Athena Neurosciences, Centocor, Genetics Institute, IDEC Pharmaceuticals, IDEXX Laboratories, and Sepracor. Evnin's previous experience was as a research scientist and business development manager at Story Chemical and Union Carbide Corp. Evnin was awarded his PhD in Chemistry from the Massachusetts Institute of Technology and also has an A.B. in Chemistry from Princeton University.

CARL FELDBAUM

Carl Feldbaum is the former leader of the U.S.-based Biotechnology Industry Organisation (BIO). Feldbaum helped create BIO in 1993 and was its leader for 11 years, steering the organisation through a period of rapid growth and development in the biotech industry. BIO now represents over 1,100 companies in 34 nations, including 850 companies, academic institutions and biotech centres in the United States. Feldbaum retired from BIO in 2004, hinting at aspirations to write.

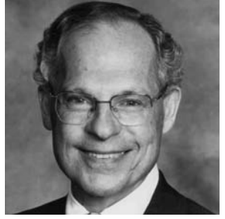
PETER FELLNER

Peter Fellner is executive chairman of Vernalis, and chairman of the privately held UK biotechnology company, Astex Therapeutics. He also serves as a director of UCB, a leading global biopharmaceutical company, and of the European biotechnology company, Evotec. In addition he is a director of QinetiQ Group, one of Europe's largest technology–based companies, and of Isis Innovation. He is a member of the UK Medical Research Council. He was previously chairman of Celltech Group, having served as its CEO from 1990 to 2003. He oversaw its development into the UK's largest biotechnology company until its acquisition in 2004. Before joining Celltech, Fellner served as CEO of Roche UK, from 1986 to 1990.

Sir Christopher is regarded as one of Europe's leading biotechnology entrepreneurs ...

RICHARD B. FLAVELL

Richard B. Flavell joined Ceres in 1998 as the CSO. From 1987 to 1998, he was the Director of the John Innes Centre in Norwich, England, a premier plant and microbial research institute. He has published over 190 scientific articles, lectured widely and contributed significantly to the development of modern biotechnology in agriculture. His research group in the United Kingdom was among the very first to successfully clone plant DNA, isolate and sequence plant genes, and produce transgenic plants. Flavell is an expert in cereal plant genomics, having produced the first molecular maps of plant chromosomes to reveal the constituent sequences. He has been a leader in European plant biotechnology initiating and guiding a pan-European organization to manage large EU plant biotechnology research programs more effectively. In 1999, Flavell was named a Commander of the British Empire for his contributions to plant and microbial sciences. He is currently an Adjunct Professor in the Department of Molecular, Cellular and Developmental Biology at the University of California at Los Angeles.



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FREDERICK FRANK

Frederick Frank is Vice Chairman and a Director of Lehman Brothers. Before joining Lehman Brothers as a partner in October, 1969, Mr. Frank was co-director of research, as well as Vice President and Director, of Smith, Barney & Co. He is a Chartered Financial Analyst, a member of The New York Society of Security Analysts and a past president of the Chemical Processing Industry Analysts. In addition to serving as a director of several biotech companies Frank is Chairman of the National Genetics Foundation, a director of the Salk Institute for Biological Studies, a member of the Board of Governors of the National Centre for Genome Resources and Chairman of the Board of The Irvington Institute for Immunological Research. In 1998 Frank was honored for outstanding contributions in the field of immunology by the Irvington Institute, and in 1997, he received the Biotech Meeting at Laguna Niguel Hall of Fame Award for Special Recognition for an Individual.

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ROBERT C. GALLO

Robert C. Gallo spent 30 years at the National Cancer Institute of the National Institutes of Health. For over 20 years he was Chief of the Laboratory of Tumor Cell Biology. In 1996 Gallo co-founded and is the director of the Institute of Human Virology (IHV), at the University of Maryland in Baltimore. He is also a professor of Medicine and of Microbiology in the university's School of Medicine. Gallo and his colleagues discovered the cytokine interleukin-2 (Il-2), the first human retroviruses – namely the leukemia viruses – HTLV-1 and 2, human herpes virus 6 (HHV-6), and codiscovered the third retrovirus, HIV, developed the HIV blood test, and showed HIV was the cause of AIDS. Gallo's motivation stems from his interest in cancer and new epidemic diseases as well as the fundamentals of disease mechanisms.

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WILLIAM H. GATES

William (Bill) H. Gates is Chairman and Chief Software Architect of Microsoft. He and his wife, Melinda, have endowed a foundation with more than $27 billion to support philanthropic initiatives in the areas of global health and learning, with the hope that in the 21st century, advances in these critical areas will be available for all people. The Bill and Melinda Gates Foundation has committed more than $3.2 billion to organisations working in global health. The foundation also supports research to develop new tools for preventing and treating serious diseases in developing countries.

WALTER GILBERT

Walter Gilbert received the 1980 Nobel Prize in Chemistry with Paul Berg and Frederick Sanger. Gilbert and Sanger were recognized for their pioneering work in devising methods for determining the sequence of nucleotides in a nucleic acid. Gilbert was founder and CEO of the biotech start-up Biogen, and was its first chairman on the board of directors. He also served as a Director of Transkaryotic Therapies. Since 1987, he has held the position of Carl M. Loeb University Professor in the Department of Molecular and Cellular Biology at Harvard University. Gilbert is also Managing Director of BioVentures Investors, Vice Chairman of the Board of Directors of Myriad Genetics, and a member of the Board of Directors of Memory Pharmaceuticals.

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DAVID V. GOEDDEL

David V. Goeddel is Senior Scientific Vice President at Amgen. He joined Amgen when it acquired Tularik in 2004 where he had served as CEO. From the late 1970s to the early 1990s, Goeddel's pioneering work in gene cloning and expression at Genentech resulted in five Genentech products, including human insulin, growth hormone, interferon-alpha, interferon-gamma and tissue plasminogen activator. Goeddel has been elected to the U.S. National Academy of Sciences and the American Academy of Arts and Sciences. He received his PhD in biochemistry from the University of Colorado and his BA in chemistry from the University of California, San Diego.

EUGENE GOLDWASSER

Eugene Goldwasser is responsible for obtaining the first partial amino acid sequence of purified erythropoietin (EPO), a hormone that stimulates the production of red blood cells, in 1977. His fundamental contributions in the identification of EPO led to its therapeutic use in the correction of anaemia in patients with chronic kidney disease, a landmark achievement in the history of renal medicine. The drug has improved the lives of millions of patients worldwide and is currently undergoing tests for use in the treatment of sickle cell anaemia and aids. Goldwasser retired in 2002, after 47 years at the University of Chicago.

Goldwasser is responsible for obtaining the first partial amino acid sequence of purified erythropoietin

ANDREW HAN

Dr Andrew Han established first biotech start up (Imagene) in Korea in 1997 riding the international biotech boom and was a catalyst to Korea's biotech commercialisation. Currently invol-ved in commercialisation projects between Korea and Australia, Han has introduced a new paradigm to commercialisation approach to Korean biotech/ pharma community. Currently, Han is CEO of Solomon Medical, Bio and Gene and board member of IDRtech.

WILLIAM HASELTINE

William Haseltine is Chairman and CEO of Haseltine Associates and President of the William A. Haseltine Foundation for Medical Sciences and the Arts. He is a professor at The Scripps Research Institute and sits on the board for the Institute for One World Health. In 1992, he founded Human Genome Sciences, serving as its chairman and CEO until October 2004. Haseltine founded *The Journal of AIDS Research and Retrovirology* and *The Journal of Regenerative Medicine*. He has received numerous awards and honors for his research on cancer, AIDS, and biotechnology. His active business career includes establishing seven biotechnology companies, among them, Dendreon, Diversa, and Human Genome Sciences and participating in the formation of another 20, including Medimmune, as a Healthcare Ventures advisor.

BILL HEMBRECHT

In 1968, Bill co-founded Hambrecht & Quist, an investment banking firm specializing in emerging high-growth technology companies. He currently serves as a director for numerous private and public companies including KQED, Inc., San Francisco's public radio and television station. Mr. Hambrecht graduated from Princeton University.

DR. LEROY HOOD

Leroy Hood is the President of the Institute for Systems Biology. His research has centered on molecular immunology, cancer, biotechnology, and genomics. At California Institute of Technology, Hood and his colleagues pioneered the DNA gene sequencer and synthesizer, and the protein synthesizer and sequencer, which comprise the technological foundation for contemporary molecular biology. In 1992, Hood moved to the University of Washington as founder and Chairman of Department of Molecular Biotechnology. In 2000, he co-founded the Institute for Systems Biology in Seattle, Washington to pioneer systems approaches to biology and medicine. He was awarded the 2002 Kyoto Prize in Advanced Technology and the 1987 Lasker Award for deciphering the mechanism of immune diversity. Hood has also played a role in founding numerous biotechnology companies, including Amgen, Applied Biosystems, Systemix, Darwin, and Rosetta.

WOO SUK HWANG

Woo Suk Hwang is a Professor of Veterinary Medicine at Seoul National University, South Korea. One of the country's leading embryonic stem cell (ESC) and somatic cell nuclear transfer (SCNT) scientists, Hwang leads the Department of Theriogenology and Biotechnology, which focuses on animal cloning and human ESCs. He started researching in vitro fertilization (IVF) and embryo transfer techniques to improve financial outcome of farmers which resulted in "elite" or "high performance" IVF or SCNT cows that produce a larger amount of milk. In 1999, he was the first Korean scientist to report the cloning of a Holstein cow named "Younglong." Hwang's research career includes the production of bovine spongiform encephalopathy (BSE)-resistant cows and the cloning of human embryos, from which stem cells were harvested. In May, the team produced research showing they had created stem cell lines that match the DNA of their patient donors' cells. In August 2005, Hwang led the team to create the world's first cloned dog.

"It is exhilarating to connect a human disease to my work."

—Rudolph Jaenisch

FRANCOIS JACOB

Francois Jacob won the 1965 Nobel Prize in Physiology or Medicine along with Andre Lwoff and Jacques Monod for their discovery of the genetic control over the production of proteins and enzymes. Jacob coined the term 'messenger RNA' with Monod to describe the template RNA that carried genetic messages from the DNA to the ribosomes. Working with Sydney Brenner and Mathew Meselson, Jacob isolated messenger RNA, the molecule which transcribes the coded information of DNA and then serves as the template for this information's translation into proteins. Jacob has won numerous other awards and is a member of many honorary societies, including the French Academy of Sciences, the National Academy of Sciences of the United States, and the Royal Society of London.

RUDOLPH JAENISCH

Rudolph Jaenisch, a founding member of the Whitehead Institution at MIT, was the first person to put foreign DNA (viral in this case) into mouse embryos. This eventually led him to mouse developmental biology. One of these virus insertions happened to knock out a collagen gene and the result was a mouse model for a human bone disease. Jaenisch's recent work includes the role of DNA methylation in mammalian brain development and the mechanism of X inactivation and genomic imprinting. His current work is focused on mouse cloning. Jaenisch developed a conditional knock-out mouse model for MECP2, work that began even before the gene discovery connecting Rett syndrome. The mouse model will greatly increase understanding of Rett syndrome and future treatment options. Says Jaenisch, "It is exhilarating to connect a human disease to my work." Jaenisch is currently a Professor of Biology at MIT, and member of the Whitehead Institute.

HAR GOBIND KHORANA

Har Gobind Khorana was the recipient of Nobel Prize for Medicine and Physiology along with Marshall Nirenberg and Robert Holley for cracking the genetic code. Khorana and his team established that the genetic code is made up of sets of three nucleotides, with each set of three nucleotides coding for a specific amino acid. Khorana was also the first to synthesize oligonucleotides. These custom designed pieces of artificial genes are widely used in biology labs for sequencing, cloning and engineering new plants and animals. Khorana's current research areas include structure-function in rhodopsin and protein-protein interactions in amplification and adaptation among other topics. He continues to work as the Alfred P. Sloan Professor of Biology and Chemistry, Emeritus, and Senior Lecturer at MIT.

ARTHUR KORNBERG

Arthur Kornberg received the 1959 Nobel Prize for Physiology or Medicine for discovering the means by which deoxyribonucleic acid (DNA) molecules are duplicated in the bacterial cell, as well as the means for reconstructing this duplication process in the test tube. He is presently Professor Emeritus at Stanford University. He helped discover the chemical reactions in the cell that result in the construction of flavine adenine dinucleotide (FAD) and diphosphopyridine nucleotide (DPN), coenzymes that are important hydrogen-carrying intermediaries in biological oxidations and reductions. After elucidating key steps in the pathways of pyrimidine and purine nucleotide synthesis, including the discovery of PRPP as an intermediate, he found the enzyme that assembles the building blocks into DNA, named DNA polymerase. Since 1991, Kornberg has focused on inorganic polyphosphate (poly P), a polymer of phosphates that is found in every bacterial, plant, and animal cell.

FU-KUEN LIN

Fu-Kuen Lin of Amgen has literally energized the lives of people on kidney dialysis. Lin spent two years working out the process for sequencing the EPO protein and another year to sequence and clone the process using Chinese hamster ovary cells. In 1983 he was able to isolate the gene which coded for human EPO from a human donor cell and then introduced it into a mammalian cell in culture, cloning the gene that produces EPO. This led to the production of the medicine Epogen® (Epoetin alfa), which has vastly improved the quality of life for people on kidney dialysis.

ERIC LANDER

Eric Lander is a Member of Whitehead Institute and Founding Director of the Broad Institute of MIT and Harvard. He is also a professor of biology at MIT and a professor of systems biology at Harvard Medical School. Lander was a leader of the international Human Genome Project (HGP). Under his leadership, the Whitehead/MIT Centre for Genome Research (which formed the core of the Broad Institute) was responsible for developing many of the key tools of modern mammalian genomics and was a leading contributor to the HGP. Lander is now using the knowledge of the human genome to find the causes versus the symptoms of disease. He has also led the efforts to develop many new analytical and laboratory techniques for studying complex genetic traits in human, animal, and plant populations and for creating a molecular taxonomy of cancer. These techniques have been applied to a broad range of common diseases, including cancer, diabetes, inflammatory diseases and many other less common genetic illnesses.

SIR DAVID LANE

Sir David Lane is the Director of the Cancer Research UK Transformation Research Group at the University of Dundee, where he leads a research team studying human tumour suppressor gene function. Sir David is also the Founder and CSO of Cyclacel, a Dundee-based biotechnology company developing novel drugs for the treatment of cancer. Sir David is internationally recognised for his original discovery of the p53 protein SV40 T antigen complex and for his many subsequent contributions to the field and was knighted for his contribution to cancer research in January 2000. He is co-author with Ed Harlow of the most successful practical guide to the use of immunochemical methods: The "Antibodies" manual has sold over 40,000 copies.

ROBERT LANGER

Currently the Germeshausen Professor of Chemical Engineering at Massachusetts Institute of Technology, Robert Langer received his B.S. in Chemical Engineering from Cornell University (1970) and his Sc.D. in Chemical Engineering from MIT (1974), plus three honorary doctorates. Langer is the only active member of all three United States National Academies and has garnered over 80 awards and honours, including the Albany Medical Centre Prize (2005), the Charles Stark Draper Prize (2002) and the Gairdner Foundation Inter-national Award (1996). He has been recognised by *Forbes Magazine* as one of the 25 most important individuals in biotechnology in the world, and *Time Magazine* has revered him as one of the 100 most important people in America. To date, Langer has amassed 380 patents in the fields of biomedical and chemical engineering, biomaterials, and controlled drug delivery.

Leder has led pioneering research in the field of molecular biology ...

PHILIP LEDER

Philip Leder is the Chair of the Department of Genetics at Harvard University. He has led pioneering research in the field of molecular biology, in particular immunology and cancer research. In 1978 and 1979 Leder made a number of fundamental contributions to the knowledge and structure of genes in higher organisms. His discovery of the base sequence of a complete mammalian gene (the gene for betaglobin) enabled him to determine its organisation in detail, including its associated control signals. In his recent work Leder has used transgenic mice carrying a single activated oncogene to determine how many genetic mutations are necessary for the development of a cancer cell. Leder continues to be one of the foremost researchers in the oncogene field.

MARK J. LEVIN

Mark J. Levin is presently a member of the Board of Directors of Millennium Pharmaceuticals and has served as its President and CEO. In 2002, he became a peer-appointed member of the National Academy of Engineers. From 1987 to 1994, Levin was a partner at Mayfield Fund, a venture capital firm, and co-director of its life science group. While employed at Mayfield, Levin was the founder of several biotechnology and biomedical companies, including Cell Genesys, CytoTherapeutics, Tularik, and Focal. From 1981 to 1987 he served as the manager of process engineering and as a project leader at Genentech. From 1974 to 1977, he served as a biochemical engineer at Eli Lilly & Co.

ARTHUR LEVINSON

Arthur Levinson is President and CEO Genentech. Levinson joined the company in 1980 as a senior scientist and subsequently held the position of staff scientist and director of the Department of Cell Genetics at Genentech. He has been a member of Genentech's executive management team since 1990. During his career, Levinson has served on the editorial boards of *Molecular Biology and Medicine, Molecular and Cellular Biology,* and *Virology* as well as on the boards of the Pharmaceutical Research and Manufacturers of America (PhRMA), the Biotechnology Industry Organisation (BIO), and the California Healthcare Institute. In addition, Levinson has authored or co-authored more than 80 scientific articles.

DENIS LUCQUIN

Denis Lucquin, Managing Partner, joined Sofinnova in 1991. Denis began his career in academic research. For five years, he was in charge of the technology transfer department at the National Institute for Agricultural Research (INRA), France's agricultural research institute. In 1989, he joined the venture capital industry as director of investments at Innolion (Crédit Lyonnais). He carried out many investments in France and other European countries in companies such as Nicox, Exonhit, IDM, Neurotech, Innate Pharma, Neuro 3D, Oxford Glycosciences, Oxford Molecular, PPL Therapeutics, Crop Design, Metris Therapeutics, and Ablynx. He sits on the board of many of these companies. Denis is also a founder of Association France Biotech.

Murdoch's research team was the first in the UK to obtain a licence to clone human embryos for stem cell research.

SHIN-YOUNG MOON

Shin-Yong Moon is the director of the Korean Stem Cell Research Centre and serves as a Director of ART (Assisted Reproductive Technology), where his genetics laboratories research interests include new culture technique of human embryos, adhesion molecules and implantation, and prenatal genetic diagnosis. He also played a central role in the development of CHIPS (chromosome imaging processing system) and FISH (fluorescence in-situ hybridization) analyzing system. Moon led a group of researchers who in 2004 were the first to successfully clone human embryos and derive a stem cell line from one of those cloned. The Korean researchers showed they had perfected the cloning technique of somatic cell nuclear transfer.

KARY MULLIS

Kary Mullis is the inventor of polymerase chain reaction (PCR), a vital technique for the amplification of specified sequences of DNA. The process enables scientists to synthesize billions of copies of a specific DNA strand in a matter of hours, allowing indepth study of the selected area. PCR is used in many areas of science, from molecular biology to forensics and palaeontology. Mullis received a Nobel Prize for his work in 1993. And holds several major patents; his most recent patent application covers a revolutionary approach for instantly mobilizing the immune system to neutralize invading pathogens and toxins, leading to the formation of his latest venture, Altermune LLC.

ALISON MURDOCH

Alison Murdoch is the Professor of Reproductive Medicine and Head of Department at Newcastle University, also chairman of the British Fertility Society. Murdoch has spent the last 15 years specialising in fertility treatment after initially training as a consultant gynaecologist. Founding the Department of Reproductive Medicine at the Newcastle Fertility Centre in 1991, Murdoch has directed it's growth and development into the leading fertility centre in the northeast of England and beyond. Her research team was the first in the UK to obtain a licence to clone human embryos for stem cell research. In addition she is currently Chairman of the British Fertility Society and is leading the department into increasingly important areas of research both regionally and nationally.

MARSHALL NIRENBERG

Marshall Nirenberg is the Chief of the Laboratory of Biochemical Genetics at the National Heart, Lung and Blood Institute of the National Institutes of Health. He received the 1968 Nobel Prize in Medicine/Physiology for his translation of the genetic code and its function in protein synthesis. Nirenberg and his coworkers deciphered the genetic code and he helped established many clonal lines of mouse neuroblastoma cells. He created a neuroblastoma-glioma somatic hybrid cell line that expresses abundant opiate receptors which is used as a model system to explore the mechanism of opiate dependence. Nirenberg and colleagues discovered and characterized *Drosophila* and mouse homeobox genes. Current studies focus on determining how a pattern of neuroblasts that express the vnd-NK-2 gene is formed in the central nervous system.

SIR PAUL NURSE

Sir Paul Nurse who shared the 2001 Nobel Prize in Physiology or Medicine, is President of The Rockefeller University. Previously he served as Chief Executive of Cancer Research UK, the largest cancer research organization outside the United States. Sir Paul's research includes discoveries of molecular mechanisms that regulate the cell cycle. His work, which is fundamental to understanding growth and development, is also vital to cancer research, because mistakes in the cell duplication process can contribute to the formation of tumors. Sir Paul joined the Imperial Cancer Research Fund (ICRF) in 1984, and in 1988 he moved to Oxford University to chair the Microbiology Department. Sir Paul returned to the ICRF as director of research in 1993, and in 1996 he was appointed director general. Sir Paul was knighted in 1999. Today at Rockefeller, while serving as President, he is also a professor and head of the Laboratory of Yeast Genetics and Cell Biology.

STELIOS PAPADOPOULOS

Stelios Papadopoulos is a Vice Chairman of SG Cowen and as an investment banker he focuses on the biotechnology and pharmaceutical sectors. Prior to joining SG Cowen, he spent 13 years as an investment banker at PaineWebber, where he was most recently Chairman of PaineWebber Development, a PaineWebber subsidiary focusing on biotechnology. Before coming to Wall Street, Papadopoulos was on the faculty of the Department of Cell Biology at New York University Medical Center. He continues his affiliation with NYU Medical Center as an adjunct associate professor of cell biology. Papadopoulos is a cofounder and Chairman of the Board of Exelixis, and he is a cofounder and member of the boards of CellZome and Anadys Pharmaceuticals. He is also a member of the Board of Directors of GenVec, Structural GenomiX, and Beyond Genomics.

EDWARD PENHOET

Edward Penhoet has dedicated his career to advocating for the development and discovery of cures and preventative measures for many life threatening-diseases. He is currently the President of the Gordon and Betty Moore Foundation which is dedicated to improving the quality of life for future generations through science, education and environmental conservation. Penhoet develops and manages the Foundation's grantmaking strategies and initiatives in the fields of scientific research and higher education. In 1999, Penhoet cofounded Renovis, a biotech firm working on the growth and regeneration of nerves. In 1981, he cofounded Chiron and served as its CEO until 1998.

CECIL B. PICKETT

Cecil B. Pickett is Senior Vice President of the Schering-Plough Research Institute, the pharmaceutical research arm of Schering-Plough. Pickett was appointed to his present position in March 2002. He joined Schering-Plough Research Institute in 1993, and most recently was Executive Vice President, Discovery Research, responsible for the planning, management and oversight of Schering-Plough's new drug discovery programs across all therapeutic areas, and for coordinating those programs with other research and commercial components. Pickett came to Schering-Plough Research Institute from Merck Research Laboratories, where he served as Senior Vice President, basic research.

INGO POTRYKUS

Ingo Potrykus is Professor Emeritus of Plant Sciences, at the Max Planck Institute of Plant Sciences and has contributed to food security in developing countries. Focusing on development and application of genetic engineering technology for crops such as rice *(Oryza sativa)*, wheat *(Triticum aestivum)*, sorghum *(Sorghum bicolor)*, and cassava *(Manihot esculenta)*. Potrykus researched the problems areas of disease and pest-resistance. He is considered the inventor of "Golden Rice" and is chairman of Humanitarian Golden Rice Board and Network. A recipient of numerous awards, Potrykus is a member of the Academia Europaea, the World Technology Network, and the Swiss Academy of Technical Sciences.

C. S. PRAKASH

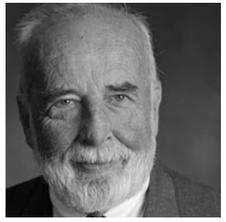
C.S. Prakish got into biotechnology research because he saw it as a future of biology–especially plant–breeding and was encouraged by the success of green revolution in India where he grew up. Prakash believes that genetic engineering will help the humanity and help enhance the quality of life for all. He has spent the past five years intensively on biotechnology education and outreach.

DENNIS J. PURCELL

Dennis J. Purcell is Senior Managing Director of the Perseus-Soros BioPharmaceutical Fund (PSBF). He is responsible for the overall management of the fund, which is dedicated to making private equity investments in the life sciences industry. Prior to joining PSBF, Purcell served as Managing Director and Head of Life Sciences Investment Banking Group at Hambrecht & Quist (now J.P. Morgan H&Q). He was honored in the "Biotech Hall of Fame" by *Genetic Engineering News* in June 1998 and named to the Biotechnology All-Stars list by *Forbes ASAP* in May 1999. Prior to joining Hambrecht & Quist, Mr. Purcell was a Managing Director in the Healthcare Group at PaineWebber.

GEORGE B. RATHMANN

George B. Rathmann is acclaimed as a founding father of modern biotechnology and pioneer of the biotechnology industry. He was the cofounder of Amgen, Inc, serving as Chairman, President and CEO from its inception in 1980 to 1988, and as chairman from 1988 to 1990. Rathmann is known for his contributions to the development of Epogen, the development of numerous tests to detect pregnancy and certain diseases in early stages; and the development of Scotchgard, one of 3M's most successful products. Rathmann is currently Chairman of Nuvelo, a company formed by the merger of Hyseq Pharmaceuticals and Varigenics. Rathmann founded ICOS in 1990 and served as its Chairman until January, 2000.



Potrykus is considered the inventor of "Golden Rice"

ANDY RICHARDS

Andy Richards is a serial biotechnology company creator and business angel investor. He is currently a director of Vectura, Biowisdom, Daniolabs, Theradeas, CRT (a commercial arm of CRUK) and Babraham Bioscience Technology. He was a founder of Chiroscience in 1992 and an executive director through to the 1999 merger with Celltech and was a founder of Arakis and a director through to the Sosei acquisition in August 2005. He has also been a founder and/or director of Aston Molecules, Cambridge Biotechnology, Amedis and Sirus all of which were successfully sold. Prior to Chiroscience he was at ICI (now Zeneca) and PA Consulting. He is a Cambridge graduate with a PhD in Enzyme Chemistry. He is a founder member of the Cambridge Angels, a founder investor in LibraryHouse.

CYNTHIA ROBBINS-ROTH

Cynthia Robbins-Roth, the founder of BioVenture Publishing and BioVenture Consultants, has been part of the biotechnology industry since 1981. A frequent speaker on issues and events affecting the industry, she combines a technical background with extensive experience in the business and finance issues that drive this growing sector. Robbins-Roth has been a consultant to the Bioscience Industry since 1986; her clients include major venture capital firms, established pharmaceutical companies, and early-stage biotechs. Robbins-Roth founded BioVenture Publishing, which produced *BioVenture View,* a monthly newsletter covering key business and product developments, and *Biopeople Magazine,* the first biotech industry business magazine. She was the founding Editor-in-Chief of *BioWorld Publications,* the first daily biotechnology news and information service.

ALLEN ROSES

Allen Roses is Senior Vice President, Genetics Research, at GlaxoSmithKline. He was one of the first clinical neurologists to apply molecular genetic strategies to neurological diseases. His laboratory at Duke University Medical Center reported the chromosomal location for more than 15 diseases, including several muscular dystrophies. He led the team that identified a form of the APOE gene as a susceptibility gene in late-onset Alzheimer disease. His work has greatly contributed to understanding of susceptibility genes in the epidemiology of many common diseases. He has discovered genes for more than a dozen other diseases. At GSK, Roses has continued to expand the support of clinical research and access of academic investigators to new technologies like interactive proteomics, single nucleotide polymorphism's (SNPs) linkage mapping, and whole genome SNPs mapping.

WILLIAM RUTTER

William Rutter, cofounder of Chiron, is a renowned scientist, academic, and corporate leader. He is recognised for his role in helping to create the biotechnology industry and for his interest in shaping that industry to serve society. In 1969 Rutter joined the biochemistry faculty of the University of California, San Francisco, serving as chairman from 1972. Rutter served as director of the Hormone Research Institute at UCSF from 1983 to 1989. He is currently the Chairman and CEO of Synergenics, an advisory firm to start-up biotechnology companies.

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ROGER SALQUIST

A founding partner of Bay City Capital, a San Francisco-based merchant bank, Roger Salquist focused on securing first and second round financing and investment for more than 30 life sciences companies. Prior to founding Bay City Capital, Salquist was, for 12 years, the Chairman and CEO of Calgene, a Davis, Calif.-based agribusiness biotechnology company, until it was acquired by Monsanto in 1996. He has also served as chairman of the California Industrial Biotechnology Association and was founding chairman of the Biotechnology Industry Association's Food and Agriculture Division. He is the current Chairman of the Board of University of California, Davis, CONNECT and serves on the advisory board of the Friday Harbor Laboratories of the University of Washington.

FREDERICK SANGER

Frederick Sanger and his colleagues developed many of the techniques still used in genomic biology to this day. The fundamental method of 'reading' DNA using special bases called chain terminators, the use of very thin gel systems, the adaptation of efficient cloning methods to produce both DNA strands and the whole-genome shotgun were all developed by Sanger and his group during the 1970s. Sanger is the only chemist to have received two Nobel Prizes in Chemistry, the first as the sole recipient in 1958 for his work on the structure of proteins, especially that of insulin, and the second in 1980, shared with Paul Berg and Walter Gilbert, for contributions concerning the determination of base sequences in nucleic acids. Sanger also developed the whole-genome shotgun method. He retired in 1985 and spends most of his time working in his garden.

Sanger is the only chemist to have received two Nobel Prizes in Chemistry

HUBERT SCHOEMAKER

Hubert Schoemaker co-founded Centocor with entrepreneur Michael Wall in 1979. He served as Chairman of its Board of Directors until 1999. When Centocor was acquired by Johnson & Johnson, He founded Neuronyx, which is focused on discovering, developing and delivering new medicines by leveraging the ability of adult bone marrow-derived stem cells to repair, regenerate and remodel tissue in acute and chronic disease settings. As chairman of Centocor, he shepherded the firm through setbacks and successes of drug approvals such as US Food & Drug Administration approval of ReoPro, a drug to reduce heart attacks in patients who have had angioplasty, and approveal of Remicade for Crohn's disease and rheumatoid arthritis.

HELMUT M. SCHÜHSLER

Helmut M. Schühsler is managing partner of the Life Science team at Techno Venture Management, a German-US venture capital company. He has been responsible for over 20 TVM investments in life science companies, and has since 1990 served on various committees, among others as a member of the Senate of the Hermann von Helmholtz-Gemeinschaft Deutscher Forschungszentren (HGF). Currently he is a board member at the following life science companies: Curacyte, Developen, Ingenium Pharmaceuticals, Intercell, Morphochem, and SelectX. Schühsler also is a member of the Supervisory Board of the European Venture Capital and Private Equity Association (EVCA), and a board member of Garching Innovation. Prior to TVM, he was an investment manager at Horizonte Venture Management in Vienna.

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KAROL SIKORA

Karol Sikora is Professor of Cancer Medicine and honorary Consultant Oncologist at Imperial College School of Medicine, Hammersmith Hospital, London where he was Clinical Director of Cancer Services for 12 years. He is Scientific Director of Medical Solutions, Britain's leading cancer diagnostic company and Special Adviser to HCA International in the creation of the London Cancer Group This includes the construction of a major new international cancer centre for care, teaching and research in London at the Harley St. Clinic with joint ventures with five major NHS Cancer Centres. He has recently been appointed Dean of Britain's first independent Medical School at the Universities of Brunel and Buckingham.

JAMES SHAPIRO

James Shapiro is the Director of the Clinical Islet Transplant Program at the University of Alberta in Edmonton, Canada. He has led the clinical islet transplant program since he joined the faculty in 1997, and it was his key contributions that led to the development of the "Edmonton Protocol." He is the principle investigator on an international multi-centre study to further evaluate the 'Edmonton Protocol' initiated in the United States by a grant from the Immune Tolerance Network (ITN). This study involves centres in the U.S. Canada, Switzerland, Germany and Italy. Shapiro and the Islet Transplantation Group were awarded the 'Outstanding Leadership in Alberta Science Award' from the Alberta Science and Technology Foundation (ASTech) in October 2000.

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SIR EDWIN SOUTHERN

Sir Edwin Southern moved to Oxford in 1985 to take up the post of the Whitley Professorship of Biochemistry, a position he still holds, and in 1988 introduced methods of analysis using oligonucleotide arrays or 'DNA Chips'. He founded Oxford Gene Technology in 1995 to commercialise his work in the areas of DNA microarrays. Prior to this Sir Edwin was Associate Director of the MRC Clinical and Population Cytogenetics Unit, where, in 1979 he set up the first project to map the human genome using molecular methods. Between 1967 and 1979 he worked in the MRC Mammalian Genome Unit in Edinburgh where he initiated some of the earliest DNA sequencing. Sir Edwin received a knighthood for services to the development of DNA technology in 2003. Sir Edwin also founded a charity The Kirkhouse Trust to promote education and research in the natural sciences. This charity is financed using royalty income from licensing microarray technology.

HENRI A. TERMEER

Henri A. Termeer is Chairman and CEO of Genzyme. Under his leadership, Genzyme has grown from a entrepreneurial venture into one of the world's top five biotechnology companies. Termeer is renowned worldwide for his contributions to the biotechnology industry and particularly noted for his expertise in financing new initiatives. His innovative approaches have earned Genzyme the Laguna Niguel *Best of Biotech* award in 1991 and 1994, as well as the Laguna Niguel Hall of Fame Award in 1997. In 2002, Termeer was elected as Chairman of the Board of the New England Healthcare Institute (NEHI). Prior to joining Genzyme, Termeer held various management positions over a 10-year period at Baxter Travenol (now Baxter International), including Executive Vice President of Baxter's Hyland Therapeutics Division and General Manager of Travenol in Germany.

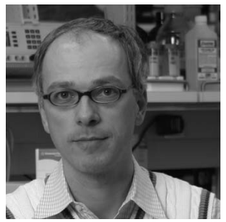
SUSUMU TONEGAWA

Susumu Tonegawa received the Nobel Prize for Physiology or Medicine in 1987 for his discovery of the genetic principle for generation of antibody diversity. Although he received the Nobel Prize for his work in immunology, Tonegawa is a molecular biologist by training. In his later years, he has turned his attention to the molecular and cellular basis of memory formation. In 1981, he became a professor at the Massachusetts Institute of Technology, where he is still based as Picower Professor of Biology and Neuroscience and a Howard Hughes Medical Institute investigator.

Trounson developed freezing techniques that would avoid discarding any embryos or transferring too many embryos to a woman.

ALAN TROUNSON

Alan Trounson's research during the late 1970s established IVF as a practical and repeatable method for the treatment of human infertility that was adopted worldwide. Trounson presently leads the Monash University's IVF scientific team. His work in devising culture methods for fertilization and the early development of the IVF embryo, resulted in the birth of normal IVF babies for many couples. Trounson also developed freezing techniques that would avoid discarding any embryos or transferring too many embryos to a woman. He also showed that successful IVF births could result from the donation of oocytes to women without functioning ovaries and that embryo donation could allow older women to successfully give birth. He was awarded a Personal Chair at Monash University in 1991 and has received numerous medals and awards for his contributions to medical research, including the Wellcome Australia Award in 1992, the British Fertility Society Patrick Steptoe Memorial Medal in 1994 and Singapore's Benjamin Henry Sheares Medal in O&G in 1995.



ROGER TSIEN

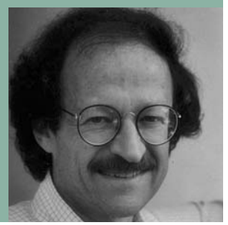
Roger Tsien is Professor of Pharmacology at the University of California, San Diego, School of Medicine and Professor of Chemistry and Biochemistry at the University of California, San Diego. Tsien designed many highly informative fluorescent reporters of signaling and gene expression in live cells and has creatively used them to elucidate fundamental mechanisms of calcium signaling and synaptic plasticity. These fluorescent probes make possible a wide range of high-throughput screening assays and explorations of cell function. Tsien has won a number of awards for his work including the recent 2002 Heineken Prize for his work on green fluorescent protein. Tsien is a co-founder of Senomyx, a biotechnology company using proprietary taste receptor-based assays and screening technologies to discover and develop novel flavor enhancers and taste modulators for the packaged food and beverage industry.

THOMAS TUSCHL

Thomas Tuschl is Associate Professor and Head of the Laboratory for RNA Molecular Biology at Rockefeller University. His work on manipulation of RNAi in the nematode *C. elegans* created a technique that is used by labs to investigate the function of individual genes. He is now studying the regulatory functions of RNA. These include RNA interference, the control of protein synthesis by microRNA (miRNA)—which were discovered by Tuschl, and RNA-guided modifications to chromatin. Tuschl's current projects include developing sensitive techniques to detect where and when cells express miRNAs, studying the biological functions of miRNAs, and identifying the miRNAs that human cells express at specific stages of development and in specific tissues. Tuschl is also exploring the links between RNA silencing and genetic disorders such as fragile X syndrome, the most common genetic cause of mental impairment, as well as certain cancers.

AXEL ULLRICH

Axel Ullrich is Director of the Max Planck Institute for Biochemistry. A globally renowned scientist whose contributions to academia and the biotech industry are widely recognized, Ullrich has been actively involved in application-oriented gene technology-based research and the development of the biotech industry in the US and Germany for the last 25 years. As a postdoctoral fellow at the University of California in San Francisco (1975-1978) he laid the groundwork for the first gene technology-based therapeutic product by cloning the first medically relevant gene encoding Proinsulin. As one of the leading scientists in Genentech, Ullrich acquired in depth research management experience and was instrumental in the development of the first recombinant DNA-based therapeutic protein, human insulin (Humulin) and the first target-specific anti-oncoprotein therapeutic for the treatment of breast cancer, Herceptin. Ullrich is the founder of two successful biotech companies Sugen and Axxima.



MARC VAN MONTAGU

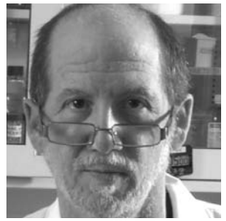
Marc Van Montagu is Chairman of the Institute Plant Biotechnology for Developing Countries. Marc Van Montagu was formerly Full Professor and Head of the Laboratory of Genetics at the University of Gent (Belgium) and part-time professor at the Free University of Brussels (VUB). His main fields of research are cell biology, chemistry, virology, biotechnology, engineering, and microbiology. He is well known (with Prof. Jeff Schell) as the inventor of *Agrobacterium tumefaciens* transformation technology, now used worldwide to produce genetically engineered plants. Having contributed to founding the Belgian biotech company Plant Genetics Systems, he was its Scientific Director for four years and a Member of its Board of Directors.

HAROLD VARMUS

Harold Varmus, former director of the National Institutes of Health (NIH) and co-recipient of a Nobel prize for studies of the genetic basis of cancer, currently serves as the president and CEO of the Memorial Sloan-Kettering Cancer Center in New York City. Much of his scientific work was conducted during 23 years as a faculty member at the University of California, San Francisco, where Varmus and colleagues demonstrated the cellular origins of the oncogene of a chicken retrovirus. For this work Varmus received the 1989 Nobel Prize in Physiology or Medicine along with J. Michael Bishop. In 1993, Varmus was named by President Bill Clinton to serve as the Director of the NIH, a position he held until his appointment as CEO of the Memorial Sloan-Kettering Cancer Center.

J. CRAIG VENTER

J. Craig Venter is founder and president of the J. Craig Venter Institute and the J. Craig Venter Science Foundation. The Venter Institute conducts basic research that advances the science of genomics; specializes in high volume genome sequencing, and explores the ethical and policy implications of genomic discoveries. The Venter Science Foundation supports both the Venter Institute and The Institute for Genomic Research (TIGR), an affiliated research organization led by Claire M. Fraser. Venter founded TIGR in 1992. While on faculty at the National Institutes of Health, Venter developed expressed sequence tags or EST's, a revolutionary new strategy for discovering genes. While at TIGR Venter's team decoded the genome of the first free-living organism, the bacterium *Haemophilus influenzae,* pioneering the new whole genome shotgun technique. In 1998, Venter became the first president of Celera Genomics to sequence the human genome using the whole genome shotgun technique, new mathematical algorithms, and new automated DNA sequencing machines. In 2003, Venter launched a global expedition to obtain and study microbes from environments ranging from the world's oceans to urban centres.



BERT VOGELSTEIN

Bert Vogelstein was the first to elucidate the molecular basis of a common human cancer. His work on colorectal cancers forms the paradigm for much of modern cancer research, with profound implications for diagnostic and therapeutic strategies in the future. He has received numerous awards recognizing this work and is a member of the U.S. National Academy of Sciences. Vogelstein is currently the Clayton Professor of Oncology & Pathology at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins and a Howard Hughes Medical Institute investigator.

ALAN WALTON

Alan Walton is Chairman of Oxford Bioscience, the operating arm of Oxford Bioscience Partners, a venture partnership investing in life science companies, particularly biotechnology. The Partnership manages $850 million and has about 80 companies in its portfolio. Previously, he was President and CEO of University Genetics, a public biotechnology company involved in technology transfer and seed investments in university-related projects. Prior to University Genetics, he taught at several prestigious institutions including Harvard Medical School, Indiana University and Case Western Reserve where he was Professor of Macromolecular Science and Director of the Laboratory for Biological Macromolecules. In addition to serving as the author of more than 130 scientific articles, books and chapters, Walton holds patents in the fields of molecular biology and biotechnology. Walton was a founder of Human Genome Sciences and GeneLogic and is the Founding Chairman of the Biotechnology Venture Investors Group.

JAMES WATSON

James Watson is best known for his discovery of the structure of DNA for which he shared with Francis Crick and Maurice Wilkins the 1962 Nobel Prize in Physiology and Medicine. In 1968, Watson became Director of Cold Spring Harbor Laboratory and steered the laboratory into the field of tumor virology. In addition to the high-level research on cancer, plant molecular biology, and cell biochemistry, the laboratory functions as a postgraduate university on DNA science. In 1989 he was appointed Director of the National Centre for Human Genome Research. In 1992, Watson resigned his position at NCHGR after successfully launching a worldwide effort to map and sequence the human genome. Watson assumed the position of the President of the Cold Spring Harbor Laboratory in 1994. He has received numerous honorary degrees and has published five books.

IAN WILMUT

Ian Wilmut is a embryologist at the Roslin Institute and in 1996 was the first to clone a mammal, a Finn Dorset lamb named Dolly, from fully differentiated adult mammary cells. Wilmut's work, published in 1997, pushed the concept of cloning into the news and public debate. Wilmut and cell cycle biologist Keith Campbell Campbell pioneered a the technique of starving embryo cells before transferring their nucleus to fertilized egg cells. Wilmut and Campbell continued their studies, and in 1997 created Polly, a sheep cloned from fetal skin cells that had been genetically altered to contain a human gene. Wilmut, who states that he sees no reason for the pursuit of the first cloning of a human, conducts his research with the hopes of producing animals that act as manufacturing plants for valuable human proteins, which are costly and difficult to produce in large amounts elsewhere.

SIR GREGORY WINTER

Sir Gregory Winter is Head of Protein and Nucleic Acid Chemistry at the MRC Laboratory of Molecular Biology in Cambridge, UK. He has worked at this laboratory for more than 30 years, and is a pioneer of the science and application of protein and antibody engineering. He is a prolific inventor, in particular of "humanized antibodies" by CDR-grafting and of human antibodies by selection from combinatorial antibody repertories: most therapeutic antibodies on the market utilize his inventions. He is a co-founder of two antibody biotech start-ups (Cambridge Antibody Technology and Domantis), and currently serves as a Director and Chairman of the Scientific Advisory Board of Domantis.

ALEJANDRO ZAFFARONI

Alejandro Zaffaroni's distinguished career in the health sciences has spanned nearly five decades. During his 50 year career as a scientist and entrepreneur, Zaffaroni helped to transform the pharmaceutical industry. His novel methods for controlled drug delivery have improved medical therapy throughout the world. Through a combination of scientific creativity and entrepreneurial insight and drive, he created new biochemical processes, drug delivery technologies—most significantly, the birth control pill, transdermal patches and once-a-day pills—and pioneered the development of new biomedical industries. Zaffroni has founded several companies including ALZA, Affymax, and Affymetrix. He is currently the CEO of Symyx and Maxygen.

JIANHONG ZHU

Jianhong Zhu is the Professor of Neurosurgery at Fudan University Huashan Hospital and the Deputy Director of National Key Laboratory for Medical Neurobiology in Fudan University Shanghai Medical College. He led the first team to successfully grow human brain cells in the laboratory, and used these to repair the damaged brains of head-injury victims. The breakthrough brings new hope in the search for therapies not only for accident victims but also for those suffering the effects of strokes, Alzheimer's, Parkinson's and a range of other degenerative conditions. Zhu is the recipient of an Alexander von Humboldt fellowship and a Cheung Kong Professorship from the National Education Minister. He has been a visiting professor of neurosurgery at Benjamin Franklin-Medical Centre, Free-University Berlin. Zhu serves on the executive committee as the current treasurer for Asia-Australiasian Society of Neurological Surgery.

ROLF ZINKERNAGEL

Rolf Zinkernagel received the Nobel Prize for Physiology or Medicine in 1996, for discovering how the immune system recognises virus-infected cells. His background includes medicine, microbiology, physiology, pathology, and immunopathology. He is currently a Professor and Head of the Institute of Experimental Immunology, Department of Pathology at the University of Zurich. Zinkernagel specializes in infectious diseases and immunopathology. Over the past few years he has been actively promoting public understanding of gene technology, animal experiments, and science in general.

Zhu led the first team to successfully grow human brain cells in the laboratory ...

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