

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
SCHOOL OF MEDICINE
PUBLIC RELATIONS

Leonard Hayflick, Ph.D.
Professor of Anatomy
University of California, San Francisco
School of Medicine
P.O. Box 89
The Sea Ranch, CA 95497

Summary Biography (June, 2007)

Dr. Hayflick was born on 20 May 1928 in Philadelphia, Pa. He received his Ph.D. at the University of Pennsylvania in 1956. After receiving a post-doctoral Fellowship for study at the University of Texas, Galveston, under the tutelage of the renowned cell culturist Prof. Charles M. Pomerat, he returned to Philadelphia, where he spent ten years as an Associate Member of the Wistar Institute and two years as an Assistant Professor of Research Medicine at the University of Pennsylvania.

In 1968 Dr. Hayflick was appointed Professor of Medical Microbiology at the Stanford University School of Medicine, Stanford, California. In 1982 he moved to the University of Florida, Gainesville, where he became Director of the Center for Gerontological Studies and Professor of Zoology in the College of Liberal Arts and Sciences and Professor of Microbiology and Immunology in the College of Medicine.

In 1988 Dr. Hayflick joined the faculty of the University of California, San Francisco where he is presently Professor of Anatomy. Dr. Hayflick is a member of numerous national and international scientific and public boards of directors and committees. He is now, or has been, on the Editorial Boards of more than ten professional journals. Dr. Hayflick was Editor-in-Chief of the international journal "EXPERIMENTAL GERONTOLOGY" for 13 years.

He is a member of twenty scientific and professional societies in which he has held several high offices including President of the Gerontological Society of America from 1982 to 1983. He was a founding member of the Council of the National Institute on Aging, NIH and Chairman of its' Executive Committee. He was a consultant to the National Cancer Institute, the World Health Organization and is now a member of several scientific advisory boards. He was Chairman of the Scientific Review Board of the American Federation for Aging Research where he was also a Vice President and a Member of the Board of Directors.

Dr. Hayflick is best known for his research in cell biology, virus vaccine development, and mycoplasmaology. In 1962 he discovered that, contrary to what was believed since the turn of the century, cultured normal human and animal cells have a limited capacity for replication. This phenomenon is known as "The Hayflick Limit." This discovery overturned a dogma that existed since early in this century and focused attention on the cell as the fundamental location of age changes. Dr. Hayflick demonstrated for the first time that mortal and immortal mammalian cells existed. This distinction is the basis for much of modern cancer research.

Dr. Hayflick developed the first normal human diploid cell strain for studies on human aging and for research use throughout the world wherever a normal human cell is required. One cell strain, developed by Dr. Hayflick, called WI-38, is the most widely used and highly characterized normal human cell population in the world. Hayflick produced the first oral polio vaccine made on a continuously propagated cell strain. WI-38 is now used for the production of all of the Rubella Virus vaccine used in the Western Hemisphere. WI-38, or its imitators, is used today for the manufacture of most human virus vaccines produced throughout the world including those for poliomyelitis, rubella, rubeola, varicella, mumps, rabies, adenoviruses and hepatitis A. Over one billion vaccinees have received vaccines produced on WI-38 or foreign version of Hayflick's original WI-38.

Dr. Hayflick is also known for his discovery of the cause of primary atypical

pneumonia ("Walking Pneumonia") in humans. The etiological agent was first thought to be a virus, but Dr. Hayflick showed that it was, in fact, a mycoplasma, a member of the smallest free-living class of microorganisms. The etiological agent was named by him as Mycoplasma pneumoniae, and was first grown by Hayflick on a medium he developed and that bears his name. It is now used world wide for mycoplasma isolation and research.

Dr. Hayflick is the recipient of more than twenty-five major awards including the \$20,000 Brookdale Award and the Kleemeier Award from the Gerontological Society of America, the Biomedical Sciences and Aging Award from the University of Southern California, The Karl August Forster Lectureship of the Academy of Sciences and Literature and the University of Mainz, Germany, the Samuel Roberts Nobel Foundation Research Recognition Award, the Lifetime Achievement Award of the Society for In Vitro Biology, the Sandoz Prize from the International Association of Gerontology, and the Presidential Award from the International Organization of Mycoplasmaology.

In 1997, Hayflick was elected Academician and Foreign Member of the Ukrainian Academy of Medical Sciences. In 1998 he was elected corresponding member of the Société de Biologie of France. In 1999, he was presented with the van Weezel Award by the European Society for Animal Cell Technology and the Lord Cohen of Birkenhead Medal by the British Society for Research on Aging. In 1997 the American Aging Association established an Annual Hayflick Lecturship. In 2000 a second Annual Hayflick Lecture also was established by the University of Alabama, Birmingham. Hayflick is the recipient of the year 2001, \$10,000 Life Extension Prize and Laureate Diploma from the Regenerative Medicine Secretariat for his "...discovery of the finite replicative capacity of normal human diploid cells.."

Hayflick is a Fellow of the American Association for the Advancement of Science, an Honorary Member of the Tissue Culture Association and, according to the Institute of Scientific Information, is one of the most cited contemporary scientists in the world in the fields of biochemistry, biophysics, cell biology, enzymology, genetics and molecular biology. Dr. Hayflick is the author of over 275 scientific papers, book chapters and edited books of which four papers are among the 100 most cited scientific papers of the two million papers published in the basic biomedical sciences from 1961 to 1978.

The 1958 inverted microscope that Dr. Hayflick adapted from crystallography for use in cell culture is the prototype for all subsequent inverted microscopes used in the field. It has been accessioned by the Smithsonian Institution along with original ampoules of WI-38 and the labeled containers of poliomyelitis and rabies vaccines produced in these cells.

Dr. Hayflick is the author of the popular book, "How and Why We Age" published in August 1994 by Ballantine Books, NYC and available in 1996 as a paperback. This book has been translated into nine languages and is published in Japan, Brazil, Russia, Spain, Germany, the Czech Republic, Poland, Israel and Hungary. It was a selection of The Book-of-the-Month Club and has sold over 50,000 copies world-wide.