



**POSITION: CO-CHAIR, PRESIDENT’S COUNCIL OF ADVISORS ON SCIENCE & TECHNOLOGY (PCAST)**

**APPOINTEE:** Harold E. Varmus

**BIRTH DATE:** December 18, 1939 in Oceanside, NY

**EDUCATION:**

B.A. in English Literature ; Amherst College

Graduate degree in English; Harvard

M.D., Columbia College of Physicians and Surgeons

**FAMILY:** Wife Constance Casey; sons Jacob and Christopher

**EXPERIENCE:**

2000-present President of the Memorial Sloan-Kettering Cancer Center, New York City

1993-1999 Director of the National Institutes of Health

1972-1993 Professor at University of California-San Francisco

1970-1972 Post-doctoral studies at University of California-San Francisco

1968-1970 Public Health Service at the National Institutes of Health

1966-1968 Medical house officer at Columbia-Presbyterian Hospital

1989 Nobel Prize in Physiology or Medicine

Advisory board of the Campaign to Defend the Constitution, an organization dedicated to opposing the religious right

Advisory board of Scientists and Engineers for America, an organization focused on promoting science in American government

**ON FEDERAL FUNDING FOR SCIENCE**

“The tendency of the current administration (George W. Bush) [is] to undermine science in a variety of ways that range from the fiscal to the regulatory and the political...”

“Something that bothers me greatly, which is the difficulty that the country is having, despite its wealth, in providing adequate support for research and technology from federal funds.”

[\[Source\]](#)

**ON STEM CELLS**

“Totipotent stem cells—such as the product of fertilization of an ovum [a zygote, i.e., a single-cell human embryo] and its progeny—are stem cells that have total potency, which means that they have the ability to form an entire mature organism, e.g., a human being, although only if placed in a woman's uterus.”

[\[Source\]](#)

“It may also be possible to make human pluripotent stem cells by using somatic cell nuclear transfer [cloning] -- the technology that received so much attention with the announcement of the birth of the sheep, Dolly.”

“But the realization of this promise is also dependent on a full and open examination of the social and ethical implications of this work. The fact that these stem cells were produced from embryos and fetal tissue raises a number of ethical concerns including, for example, the need to ensure that stem cell research not encourage the creation of embryos or the termination of pregnancies for research purposes.”

“The statute that bans the use of Federal funds for embryo research defines embryo as an organism derived by fertilization and other means. The statute does not, however, define organism. Therefore, the

legal opinion relied on the broadly accepted science-based definition of organism: an individual constituted to carry out all life functions. By this definition—and as you heard from all the witnesses that responded to that question at your hearing on this matter on December 2, 1999—pluripotent stem cells are not and cannot develop into organisms. Therefore, human pluripotent stem cells are not embryos and are not covered by this prohibition on Federal funding.”

[\[Source\]](#)

"It is essential that the federal government play a role in funding and overseeing the conduct of this (embryonic stem cell) research. Federal funding will make it possible for scientists—both privately and federally funded—to have the opportunity to pursue this important line of research."

[\[Source\]](#)

## **ON CLONING**

Both Varmus and the working group cited the value of the report of a 1994 ACD working group — the human embryo research panel — which drafted recommendations governing potential use of human embryo cells in federally sponsored research; that report yielded taboos that Tilghman said will stand in the new guidelines: no human cloning, no human-animal chimeras, and no creation of novel organisms.

[\[Source\]](#)

Dr. Harold Varmus, the former head of the NIH and a Nobel laureate, says there is a profound distinction between cloning with the intent of making a human being and research cloning to get a handle on understanding and treating terrible diseases.

[\[Source\]](#)

“My statement addresses how somatic cell nuclear transfer offers potential benefits for medical research and medical practice.”

“The result is a cell that contains the nutrient environment of an egg cell and genetic material only from the donated somatic cell. This is not sexual reproduction, since genetic material is derived from only one, not two, individuals. There is no sperm involved. The egg provides only the environment for growth. After a number of cell divisions, these cells are placed into the uterus of a sheep. In the case of Dolly, a lamb was born -- an identical twin of the original donor, only born later.”

“Somatic cell nuclear transfer research offers the potential for developing individualized cell and tissue therapies that cannot be developed using current methods.”

“Legislation banning the creation of the human being using cloning technology must strike a careful balance: to ban the creation of a human being without impeding promising research requiring the use of the cloning technology.”

[\[Source\]](#)