

Elizabeth Blackburn and Maintenance of Telomeres



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Elizabeth Helen Blackburn was born November 26, 1948, in Hobart, Tasmania, Australia. Her parents were both general practitioners, and she was the second of seven children. Her family moved to Launceston in north Tasmania when she was 4 years old and then, when she was in high school, moved to Melbourne. After high school graduation she went on to the University of Melbourne, from which she received a Bachelor of Science degree in 1970 and Master of Science in 1972, focusing on amino acid metabolism. In 1975, her work on the bacteriophage phi X 174 in British biochemist Fred Sanger's laboratory earned her a doctoral degree from the University of Cambridge in England, and she followed this with post-doctoral work at Yale University. While she was at Yale, she married biochemist John Sedat.

Dr Blackburn's first faculty appointment was at the University of California at Berkeley in 1978. Her husband had received an appointment to the University of California at San Francisco (UCSF) in 1977, which brought the young couple to the Bay Area. Six years later, Dr Blackburn discovered the enzyme telomerase that maintains telomeres, structures of DNA repeats that protect the ends of chromosomes from degradation. Her later work focused on telomere dynamics, and the role of telomeres in health and disease. Her son Benjamin was born in 1986.

Dr Blackburn moved to the Department of Microbiology and Immunology at UCSF in 1990, a department she chaired from 1993-1999. She was given an honorary doctorate by Yale in 1991 (followed by honorary degrees from more than 10 other universities), and elected a fellow of the Royal Society in 1992 and member of the Institute of Medicine in 2000. She has received numerous other awards.

In 2002, Blackburn was appointed to the President's Council on Bioethics, but her position was terminated by the Bush administration in 2004, largely because of her support of embryonic stem cell research. Many influential scientists and members of the public protested her dismissal.

In 2009, she was awarded a share of the Nobel Prize in Physiology or Medicine together with Jack Szostak, a Canadian investigator at Harvard Medical School who studied the DNA sequence of telomeres, and Carol Greider, who had been Dr Blackburn's graduate student in 1984 and was a codiscoverer of telomerase.

In 2015, she was named director of the Salk Institute in La Jolla, California, and was elected president of the American Association for Cancer Research (AACR). Dr Blackburn was honored philatelically in 2014 by the Solomon Islands (Scott 14207a).

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