**Researchers Find "Immortality" Enzyme in Cancer Cells**

**Cancer cells contain an enzyme that lets them reproduce without limits, while ordinary cells undergo a process of aging and death, according to a study using a sensitive new analysis technique.**

**Scientists at the University of Texas, Southwestern Medical Center in Dallas and at Geron Corporation in Menlo Park, California, reported today in the journal Science that the new test detected an enzyme called telomerase in scores of cancer specimens but not in other types of cells.**

**The study boosts the theory that cancer colonies remain youthful and vigorous because the cells divide endlessly without eroding a chromosome structure called telomere.**

**In normal cells, the telomere is shortened slightly each time a cell divides. After many cell generations, the telomere disappears, causing cells to stop dividing and eventually to die. This is thought to be an element in aging.**

**The telomere is made up of DNA segments that help control the accuracy of genetic reproduction when a cell divides to create a new cell.**

**In cancer cells, it is thought that the telomere does not erode with each cell division, thus enabling cancer cells, in a sense, to be "immortal." Telomeres in cancer cells are thought to be protected and even renewed by the enzyme telomerase.**

**University of Texas and Geron researchers said they found teleomerase in 98 of 100 laboratory cancer cell lines and in 90 of 101 biopsies from 12 different types of human cancers. The enzyme, however, was not found in 22 normal cell cultures or in any of 50 normal or benign biopsies.**

**"What this demonstrates is that telomerase is linked to cell immortality in cancer," said Jerry Shay, a professor of cell biology at the Texas medical center. "It gives many kinds of cancer an unlimited ability to proliferate."**

**Shay said this enzyme could be a vulnerable point of attack against many types of cancer. A drug that would block the action of telomerase would prevent cancer from avoiding the effects of normal aging, he said.**

**"Basically, you would remortalizing those cells," Shay said.**

**Although no telomerase blocker has been developed, he said companies such as Geron may have a product ready for testing within two years.**

**Science, which published the study, is the journal of the American Association for the Advancement of Science. *(The Quincy Herald-Whig, December 23, 1994)***