So Much for Immortality

Apr 22, 2011

Premium

It's thought that cancer cells are able to endlessly replicate themselves as they spread through the body. But far from being "immortal," a new study in *Pigment Cell & Melanoma Research* shows the cells seem unable to multiply at will, reports *New Scientist*'s Andy Coghlan. By studying the molecular profiles of skin cancer cells as they grow in the lab, the researchers found that many appear to hit a "telomere crisis" and stop dividing when the tips of the chromosomes become so short that the cell mistakes them for DNA breaks and tries to repair them, Coghlan says. "The team found that the few cancer cells that are immortal activate telomerase reverse transcriptase, a part of the telomerase enzyme that rebuilds telomeres so they avoid a telomere crisis," he adds. Cancer Research UK recently launched a trial to stop the spread of pancreatic cancer with a vaccine made of fragments of telomerase reverse transcriptase and a similar vaccine against acute myeloid leukemia is being tested in California, Coghlan says.

We recommend

ASCO: Telomeres and Cancer
GenomeWeb, 2011

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GenomeWeb, 2011

Cambrex Licenses Telomerase-Immortalized Human Cells from Geron for Drug Discovery
GenomeWeb, 2005

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GenomeWeb, 2011

Breaking News

- Veritas Genetics Halts US Operations
- New Products Posted to GenomeWeb: Quadrant Biosciences, InterVenn Biosciences, Macrogen, More
- Childhood Kidney Cancer Arises From Altered Normal Tissue, Sequencing Study Finds
- Amgen Gifts $1M to Keck Graduate Institute for Genomics Education Center
- Ancestors of Sub-Saharan Africans Interbred With Archaic Humans
- Centogene Q3 Revenues Decrease 13 Percent Due to Non-Recurring Payments From Pharma Partners

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Hope, But Cost Worries

Nature News reports that gene therapy approaches are tackling sickle cell disease, but that the cost of treatment is a concern.

Cleared the Committee

The *Washington Post* reports that a US Senate committee voted this week to approve the nomination of Stephen Hahn to lead the Food and Drug Administration.

One Gene to Shape the Face

One gene regulates hundreds of others to influence facial development, according to *New Scientist*.

Nature Studies Review Resources for Single-Cell Analysis, Examine ALS Exomes, More

In *Nature* this week: resources for single-cell analysis, little overlap in the microRNAs used by *Salmonella* and *Shigella* to infect host cells, and more.