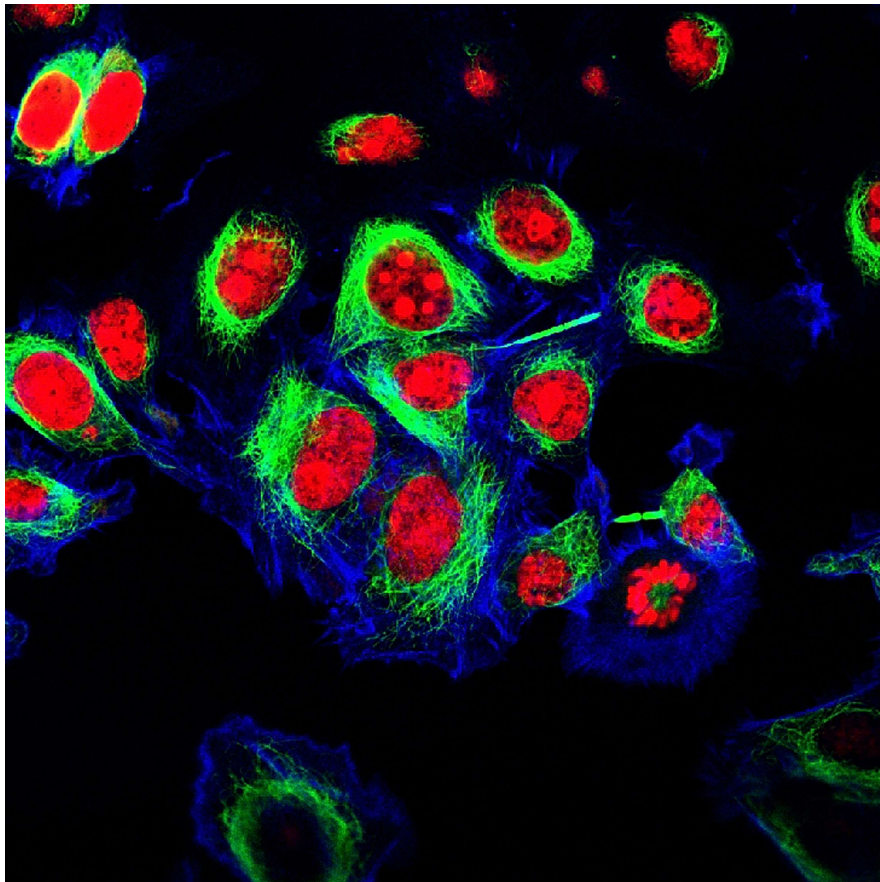


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British Society for immunology

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HeLa cells (1951)



Henrietta Lacks, a Black woman, was a 31-year-old mother of five when she died from cervical cancer in 1951. Her name and memory live on in the form of a remarkable lineage of continually dividing cells that have achieved, to all intents and purposes, “immortality”. Her cancer cells have continued to live well beyond her death in labs around the world,

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replicating so prolifically that laid end-to-end they could be wrapped around the earth three times.

When Henrietta attended a cancer clinic at Johns Hopkins in Baltimore in January 1951, the only hospital in the area to treat African Americans at that time, little did she realise that she would achieve a kind of immortality. Her surgeon, Howard Jones, took a tissue biopsy of her cancerous womb without her knowledge or consent, which was passed to George Otto Gey, a physician and cancer researcher in the same Baltimore hospital who was astonished by the ability of the cells to replicate in laboratory culture.

Normally, cancer cells would divide a few times and die off before any decent studies could be done with them. But Henrietta's just kept on dividing and dividing, just so long as they were fed the right mix of nutrients for them to grow. Henrietta's cancer cells became the first human "cell line" to be established in culture and Gey named them after the first two letters of her name – HeLa (pronounced "hee-la").

HeLa cells have since become the most widely used human cell line in biological research and were critical for many biomedical breakthroughs of the past half century. Jonas Salk, for instance, used them in 1954 to develop the polio vaccine and in the 1980s AIDS researchers used them to identify and isolate the human immunodeficiency virus (HIV) while in recent years HeLa cells were critical for the "omics" revolution, from genomics to transcriptomics and proteomics.

Some 70,000 studies have been published involving the use of HeLa cells and they are in widespread use throughout the field of immunology. At least two Nobel Prizes have been awarded recently for research involving HeLa cells, one on the link between human papilloma virus and cervical cancer (2008 by Harald zur Hausen), which was shared with the discoverers of HIV (Luc Montagnier and Françoise Barré-Sinoussi), and the other into the part played by the telomerase enzyme in preventing chromosome degradation (2009 by Elizabeth Blackburn, Carol Greider and Jack Szostak).

As for Henrietta's extended family, they were kept in the dark about what happened to their ancestor's unwitting bequest to medical science until relatively recently, a shocking oversight that led in the US to a change in the ethical ground-rules covering the taking and use of hospital biopsies without informed consent. The story of Lacks' life and afterlife can be better understood "The immortal life of Henrietta Lacks", a novel written by Rebecca Skloot.

