



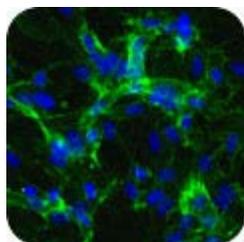
In this issue:

[TIME cells](#) | [Excellence in Research](#) | [RPTEC/TERT1](#) | [Lab Manager Webinar](#) | [Photo Contest](#)

## ATCC hTERT immortalized cell lines

Telomerase, the “timekeeper” of the cell, facilitates end-replication of the chromosomes during cell division, which keeps the telomeres from shortening, and the cell from succumbing to replicative senescence. Most differentiated cells do not express active Telomerase, so they quickly senesce when grown under *in vitro* culture conditions. In many cases, however, forced expression of the hTERT component of Telomerase allows cells to avoid replicative senescence and become immortalized. This technology lets investigators generate cell lines with both the physiological attributes of primary cells and the long culture life of continuous cell lines, for use in applications like cancer research and drug discovery.

This month we will feature the TIME and RPTEC/TERT1 cell lines, but make sure to check out all of the [hTERT immortalized cell lines](#) available from ATCC. Also, be sure to download the [ATCC guide to culturing hTERT immortalized cell lines](#).



### TIME is on your side – for studying endothelial cells

The study of endothelial biology is fundamental to understanding the progression of many diseases like atherosclerosis and cancer. Telomerase immortalized human microvascular endothelium (TIME) cells (CRL-4025), were derived from a primary culture of neonatal foreskin microvascular endothelial cells of the dermis, and immortalized by infection with the retrovirus WZLblast3:hTERT. TIME cells proliferate continuously for at least 200 population doublings, and express a panel of characteristic endothelial cell surface marker proteins including CD31/PECAM-1 and integrin alpha 5 beta 3. Additionally, they express the low density lipoprotein (LDL) receptor, are capable of acetylated LDL uptake, and undergo tubulogenesis under appropriate conditions *in vitro*. Thus, TIME cells are ideally suited for studying aspects of endothelial biology, such as signal transduction and angiogenesis.

[Learn more ►](#)

Share with others: [f](#) [t](#) [✉](#)

## ATCC Publications

### ATCC® Animal Cell Culture Guide

Tips and techniques for continuous cell lines.

[Download PDF ►](#)

### ATCC® Primary Cell Culture Guide

Tips and techniques for culturing Primary Cells.

[Download PDF ►](#)

### ATCC® hTERT Cell Culture guide

Tips and techniques for culturing hTERT immortalized cells.

[Download PDF ►](#)

### Cell Culture Conversation:

A blog focused on issues affecting cell culture.

[Engage now ►](#)

## Tech Tip

### Q: What causes normal, primary cells to stop dividing?

It appears that the four major factors that initiate replicative senescence are Telomerase inactivity, and the activation of the cell-cycle checkpoint proteins: p16/INK4a, pRB, and p53.

[Learn more ►](#)



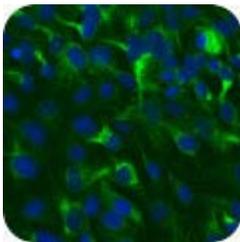
## Excellence in Research Webinar

hTERT-immortalized Cells - Unique Tools for Tissue-Relevant Research  
CK Zhang, Scientist, ATCC Cell Systems

ATCC hTERT immortalized cell lines represent a breakthrough in cell biology research that combines the *in vivo* nature of primary cells and the *in vitro* utility of continuous cell lines.

Normal primary cells are difficult to isolate, often vary from lot to lot, and senesce after a few passages. Traditional cell lines, on the other hand, are genetically unstable and present inconsistent phenotypes over time. In this webinar, we are going to use an hTERT immortalized Renal Proximal Tubular Epithelial Cell line (RPTEC/TERT1, CRL-4031) as an example to show how cell biologists can use the hTERT cell lines from ATCC as valuable tools for the studies of cell functions *in vitro*.

[View webinar ►](#)



### hTERT-immortalized Renal Proximal Tubular Epithelial Cells (RPTEC/TERT1)

ATCC now offers Renal Proximal Tubular Epithelial Cells immortalized by the forced expression of the hTERT component of the telomerase gene (ATCC® No. CRL-4031™). These cells are ideal for applications, like drug screening and cancer research that require a large population of cells that mimic their *in vivo* RPTEC counterparts.

[Learn more ►](#)

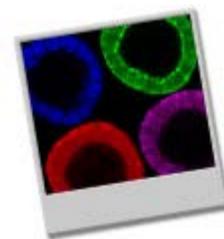


### ATCC Webinar with Lab Manager Magazine

*Setting up a cell culture lab,*  
December 6th, 2012.

ATCC is sponsoring a webinar, given by *Lab Manager Magazine*, which will discuss practices you can use to automate and streamline your cell culture processes and laboratory workflows. This free webinar will bring together experts in the field of cell culture, from several respected organizations, to provide you an opportunity to learn and ask questions about how to enhance your lab's efficiency and productivity.

[Register now ►](#)



### Coming Soon! – ATCC Photo Contest

Get your ATCC cell lines dolled up and ready for their close-ups. Starting in January 2013, ATCC will be looking for cell culture images that steal the show! You will have the opportunity to send us your most beautiful and scientifically stunning images of ATCC cell lines, for the chance to win great prizes. Check out the December issue of *Cell Passages* for more information.

ATCC - 10801 University Boulevard, Manassas, VA 20110

© 2012 American Type Culture Collection. ATCC® is a registered trademark and the ATCC logo is a trademark of the American Type Culture Collection. ATCC products are intended for laboratory research only. They are not intended for use in humans, animals or diagnostics.

To receive emails from ATCC, please take a few minutes to update your profile [click here](#).

To Unsubscribe, [click here](#).

[Privacy Policy](#).