

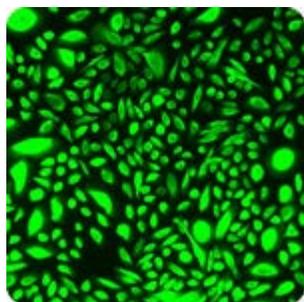


THE ESSENTIALS OF LIFE SCIENCE RESEARCH  
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Primary Cells are isolated directly from tissue and thus provide a physiologically-relevant accompaniment to continuous cell lines; and, in some cases, they may be a preferred model. Unlike continuous cell lines, primary cells are only maintained for a limited time, so the potential for genetic and phenotypic drift is reduced while their resemblance to the *in vivo* state is preserved. The ATCC Primary Cell Collection includes an array of cell types derived from a variety of different tissues. These cells represent powerful experimental platforms that researchers can use to explore cell biology in new and meaningful ways.

This month, *Cell Passages* will feature the newest additions to the primary cell collection, but make sure to check out all of the [human primary cell lines and associated products](#) available from ATCC. Also, be sure to download the [ATCC Primary Cell Culture Guide](#) for tips and techniques for culturing primary cells.



### Primary Human Mammary Epithelial Cells – *Now Available!*

The human mammary gland is a complex tissue composed of milk-producing luminal epithelial cells surrounded by contractile myoepithelial cells; and the vast majority of breast cancers originate in these structures. Studies have suggested that continuous cell

lines tend towards lineage-restricted profiles, which fail to mimic the cellular heterogeneity of either the normal or cancerous mammary gland\*. Thus, cultures derived directly from the tissue may provide a more representative model for certain applications like the study of oncogenesis or drug discovery.

Primary cells can be isolated in the laboratory setting, but the isolation process makes primary cell cultures vulnerable to contamination by bacteria or non-epithelial cells. Plus, access to an ethically-derived source of normal human mammary tissue may be difficult to obtain. These issues may be avoided entirely by using **Primary Human Mammary Epithelial Cells** from ATCC.

ATCC Primary Mammary Epithelial Cells ([ATCC® No. PCS-600-010™](#)) are a mixed population of myoepithelial and luminal epithelial cells. They are cryopreserved at low passage (P2) to ensure high post-thaw viability and

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### ATCC Publications

[Animal Cell Culture guide](#)

[Primary Cell Culture guide](#)

[Stem Cell Culture guide](#)

### Tech Tip

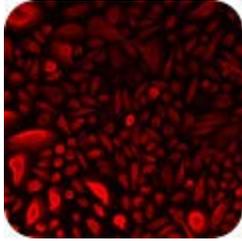
**Q: Why do I need to use a low trypsin concentration for dissociation when culturing primary cells?**

**A:** Most anchorage-dependent cells can be sub-cultured by disaggregation of the cell sheet with a proteolytic enzyme such as trypsin. However, since trypsin can be damaging to some membrane-associated proteins, its use should be minimized when long-term effects of the enzyme are unknown. An appropriate solution for general use with primary cells is a solution of 0.05% (w/v) trypsin and 0.02% EDTA in phosphate buffered saline without calcium or magnesium ([ATCC® PCS-999-003™](#)).

[Have more questions?](#)

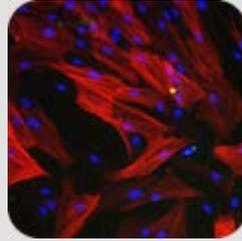
plating efficiency. Additionally, they have been thoroughly tested to confirm their proliferative capacity and they are free of microbial contamination. Together with ATCC Mammary Epithelial Cell Basal Medium and Growth kit (see below) they form a complete culture system that you can trust to help you achieve your research objectives.

\*Keller, PJ et al. Mapping the cellular and molecular heterogeneity of normal and malignant breast tissues and cultured cell lines. Breast Cancer Res 12, R87 (2010).



### **Primary Human Mammary Epithelial Cell Complete Media**

Ensure the health and growth properties of your Primary Mammary Epithelial Cells with media components from ATCC. Combine Mammary Epithelial Cell Basal Medium ([ATCC® No. PCS-600-030](#)), with the Mammary Epithelial Cell Growth Kit ([ATCC® No. PCS-600-040](#)) to create a fully optimized, serum-free system designed to promote consistent *in vitro* propagation of primary mammary epithelial cells.



### **Trypsin-EDTA for Primary Cells ([ATCC® PCS-999-003™](#))**

Trypsin-EDTA for Primary Cells is a low-concentration formulation (0.05% Trypsin and 0.02% EDTA in phosphate buffered saline without calcium or magnesium) of porcine pancreatic trypsin and EDTA that is suitable for the dissociation of cell monolayers that are susceptible to over-trypsinization (i.e. primary cells as well as a variety of mammalian cell lines that are propagated in serum-free or low serum conditions).



### **Primary Cell Solutions – Biologically relevant *in vitro* models**

**Carolyn E. Peluso, Ph.D.**  
*ATCC Technical Writer*  
September 26, 2013

Did you know, ATCC, your trusted source for tumor cell lines, also offers primary cells? In this webinar, we will describe how our broad offering of primary cells, optimized media systems and transfection reagents, can help you get your primary cell cultures up and running, so you can get your experiments going, and your research moving forward.

[Register today >>](#)

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