

Product News

Lonza to Highlight a New 3D Culture System Reforming Spheroid Culture and Analysis at AACR 2016

Cologne (DE) / Walkersville, MD (USA), 6 April 2016 – Lonza will demonstrate the RAFT™ 3D Culture System at AACR 2016 and highlight new applications and optimized protocols that allow researchers to overcome some of the challenges previously associated with working with 3D cultures. RAFT™ 3D Cell Culture System uses a high-density collagen scaffold to closely mimic the extracellular matrix of native tissues. Cancer cells can be embedded in the collagen matrix, and many of them form tumor-like structures.

Delegates visiting the Lonza booth #1930 can discover:

- How the translucent properties of RAFT 3D Culture System enable visualization of tumor-like structures with subcellular resolution under a fluorescence microscope,
- How modification of a standard 2D analysis method enables use of Lonza's ViaLight™ Assays to assess cell viability in 3D cell culture.
- How the RAFT™ System permits different cancer cell types to show distinct morphologies, as well as characteristic tumor migration and invasion patterns. A recent study demonstrated how this can help researchers understand how to maximize the therapeutic potential of drugs in a more *in vivo*-like cell culture system.
- How to overcome the challenge of transfecting cells in 3D cell culture by using Lonza's Nucleofector™ Transfection Technology to achieve high transfection efficiencies and good cell viability prior to transferring cells into 3D cell culture. This efficient approach creates spheroids that maintain transfected substrate for several days in culture.

In addition, Lonza will present a poster in the tumor biology category titled "Analyzing Cell Viability in 3D Tissue Models with the ViaLight™ Plus BioAssay" on Sunday, 17 April 2016, 1:00 pm to 5:00 pm, at the Convention Center, Halls G-J, Poster Section 28.

A further poster featuring the RAFT™ 3D Cell Culture System will be presented by Tarig Magdelin, Postdoctoral Research Associate at the Cancer Nanotechnology Group, University College London. "Engineering a Vascularized 3D *In Vitro* Model of Cancer Progression" will be presented on Tuesday, 19 April 2016, 1:00 pm to 5:00 pm at Poster Section 10.

More information about these new applications of RAFT™ 3D Cell Culture System for cancer research will be available at Lonza's booth #1930 at AACR 2016.

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Further product details are available on www.lonza.com/raft-applications

Notes to Editors

Why is 3D cell culture important?

Around 70 percent of cancer cells can form higher-order structures known as tumoroids or spheroids. The center of these structures is exposed to a hypoxic environment and the core can become necrotic, which more closely resembles the inner tumor mass *in vivo*. This special behavior of cancer cells can't easily be mimicked in a classical 2D cell culture environment, which has fueled the adoption of tumoroid-enabling 3D cell culture techniques for oncology research.

What are the challenges of 3D cell culture?

Using 3D cell culture brings its own unique challenges. Unlike 2D cell culture, it can be difficult to apply standard cell analysis techniques on tumoroids. The tight structure of spheroids may interfere with imaging, transfection techniques or cytotoxicity assays. In addition, classical spheroid cultures lack the extracellular matrix that surrounds tumors *in vivo*. RAFT™ 3D Culture System addresses such challenges with 3D models.

About Lonza

Lonza is one of the world's leading and most-trusted suppliers to the pharmaceutical, biotech and specialty ingredients markets. We harness science and technology to create products that support safer and healthier living and that enhance the overall quality of life.

Not only are we a custom manufacturer and developer, Lonza also offers services and products ranging from active pharmaceutical ingredients and stem-cell therapies to drinking water sanitizers, from the vitamin B3 compounds and organic personal care ingredients to agricultural products, and from industrial preservatives to microbial control solutions that combat dangerous viruses, bacteria and other pathogens.

Founded in 1897 in the Swiss Alps, Lonza today is a well-respected global company with more than 40 major manufacturing and R&D facilities and approximately 9,800 full-time employees worldwide. The company generated sales of CHF 3.8 billion in 2015 and is organized into two market-focused segments: Pharma&Biotech and Specialty Ingredients. Further information can be found at www.lonza.com.

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