

Product News

Lonza's 4D-Nucleofector™ LV Unit Delivers Closed, Optimized, Larger-Scale Transfection

Cologne, Germany, 08 June 2016 – Today Lonza introduced the 4D-Nucleofector™ LV Unit to its transfection platforms. The new unit expands the proven 4D-Nucleofector™ System to closed, larger-scale transfection of up to 1×10^9 cells. Transfection protocols can be established in smaller scale using the 4D-Nucleofector™ X Unit and smoothly transferred to larger scale without the need for re-optimization. With this new addition, small- and large-scale transfection applications are now united in one system based on the highly efficient and established Nucleofector™ Technology.

Transfection is a powerful tool that is used to study and control gene expression by delivering DNA or RNA or even proteins into cells. Various applications within translational research require the generation of large numbers of transiently modified cell lines or primary cells. Such applications include modification of cells via genome editing or the generation of CAR-T cells for ex-vivo cell therapies, production of transient proteins or antibodies for construct screening, and generation of disease models via genome editing for cell-based assays.

Herbert Mueller-Hartmann, Head of Research and Technology at Lonza, explained, "The new addition of a larger-scale transfection format allows us to accompany scientists as they translate the results of their research applications into potential therapeutic applications. What is really unique to our technology is the fact that the same transfection conditions can be used throughout our various conductive polymer-based platforms, which allows for real scalability." Mueller-Hartmann went on to say, "The fully closed system is also suited for use in a regulatory environment as it can be controlled by 21 CFR Part 11-compatible software."

Lonza's Nucleofector™ Technology is an improved electroporation technique that has transformed transfection and allowed scientists achieve results never before possible. Unlike classical electroporation, Nucleofection also delivers high efficiencies that can be achieved using much lower amounts of substrate with only a moderate impact on viability. When it was introduced in 2001, Nucleofector™ Technology was the first efficient, non-viral transfection method for primary cells and hard-to-transfect cell lines. Due to its flexibility with different substrates, such as plasmid DNA and mRNA, Nucleofector™ Technology is being used by many renowned scientists and is helping to drive research in numerous cell types and applications, including non-viral iPSC generation via episomal vectors, as well as genome editing using various ZFN-, TALEN- or CRISPR-related cargo combinations.

For product details, visit: www.lonza.com/lv-unit

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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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