

# 4D-Nucleofector® LV Unit for Large-scale Transfection



## Efficient, Closed and Scalable Transfection for *Ex Vivo* Cell and Gene Therapy Applications

Experience the 4D-Nucleofector® LV Unit which expands our proven 4D-Nucleofector® System to larger scale transfection. The LV Unit allows for closed, scalable *ex vivo* modification of human primary cells in the range of  $1 \times 10^7$  to  $1 \times 10^9$  cells. Transfection protocols can be established in smaller scale using the X Unit and subsequently transferred to the LV Unit without the need for re-optimization. It supports numerous applications, such as CAR-T cell generation, CRISPR genome editing and allows you to quickly translate research results into a GMP compliant cell therapy manufacturing process.

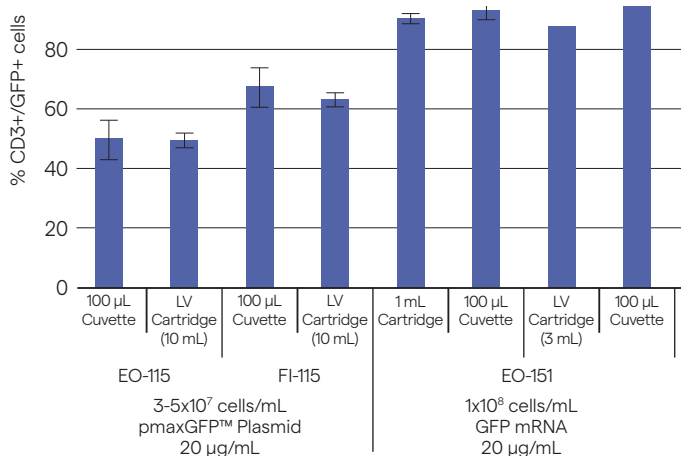
### Benefit from

- **Closed system** – Sterile Nucleofection of up to  $10^9$  cells
- **Real scalability** – Optimization in small scale
- **Established protocols** – Benefit from 700+ optimized cell types
- **4D-Nucleofector® LogWare** – Optional operation via 21CFR part11 compliant software
- **TheraPEAK® Nucleofector® Consumables** – Expediting your path towards a GMP process



Find out more, visit:  
[lonza.com/transfection-scale-up](https://lonza.com/transfection-scale-up)

## Transferability from small to large scale



### Transfection of human T cells with plasmid DNA or mRNA

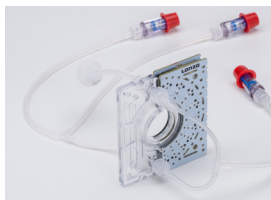
Fresh PBMCs were transfected with either pmaxGFP™ Plasmid or GFP mRNA using a 100 µL Nucleocuvette® Vessel, a 1 mL Nucleocuvette® Cartridge or a flow-through LV Nucleocuvette® Cartridge. Transfection efficiency in CD3-positive T cells was analyzed 24 hours post Nucleofection®. Plasmid data represent the mean of various independent experiments. mRNA data are based on duplicates (left 2 bars) or unicates (right 2 bars).

## Two Formats Available in Research or GMP Quality



### 1 mL Nucleocuvette® Cartridge

- 1 mL fixed volume
- Up to  $1 \times 10^8$  cells
- Manual filling via sterile injection port



### LV Nucleocuvette® Cartridge

- Up to 20 mL processing volume (in 1 mL steps)
- Up to  $1 \times 10^9$  cells
- Automatic filling via 4D-Nucleofector® LV Reservoirs or bags
- Version with PVC tubing extension available for sterile welding

## Contact Us

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Cat. No.	Description	Size
<b>Devices and Accessories</b>		
AAF-1003B	4D-Nucleofector® Core Unit	1 unit
AAF-1003X	4D-Nucleofector® X Unit	1 unit
AAF-1002L	4D-Nucleofector® LV Unit Including 2 LV Reservoir Racks	1 unit
AAK-3001	4D-Nucleofector® LV Reservoir Rack	1 unit
SAAF-1002	4D-Nucleofector® LogWare (second generation)	1 unit
<b>Research-grade Kits and Consumables*</b>		
V4LP-3002	P3 Primary Cell 4D-Nucleofector® LV Kit L Including two 1 mL Nucleocuvette® Cartridges	2 reactions
V4LP-3020	P3 Primary Cell 4D-Nucleofector® LV Kit XL Including 1 LV Nucleocuvette® Cartridge (non-weldable) and 2 LV Reservoirs	1 reaction
V4LP-3520	P3 Primary Cell 4D-Nucleofector® LV Kit XL Including 5 LV Nucleocuvette® Cartridge (non-weldable) and 10 LV Reservoirs	5x1 reaction
V4LN-7020W**	LV Nucleocuvette® Cartridge, weldable tubing	1 piece
V4LR-1001W	4D-Nucleofector® LV Reservoirs, weldable tubing	2 pieces
<b>GMP-grade Consumables</b>		
G4LP3-22500	TheraPEAK® P3 Nucleofector® Solution Set	22.5 mL + 5 mL
G4LP3-126000	TheraPEAK® P3 Nucleofector® Solution Set	126 mL + 28 mL
G4LN-7520W	TheraPEAK® LV Nucleocuvette® Cartridge, weldable tubing	5 pieces
G4LR-1501W	TheraPEAK® 4D-Nucleofector® Reservoir, weldable tubing	5 pieces

\* Further variants and kits for cell lines are available

\*\*For separate Solution Set, please contact your local sales representative

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