Amaxa® Nucleofector® Technology

Nucleofector® Technology – the Superior Non-Viral Method

- **Easy to use** – Amaxa® Optimized Protocols for more than 200 primary cell types and cell lines
- **Preserve cell functionality** – excellent efficiency and viability, even in stem cells
- **Choice of throughput options** – from 1 to 96 transfections per run
- **Substrate flexibility** – DNA, RNA, peptides, proteins or antibodies
- **Proven in leading labs** – more than 2000 peer-reviewed publications

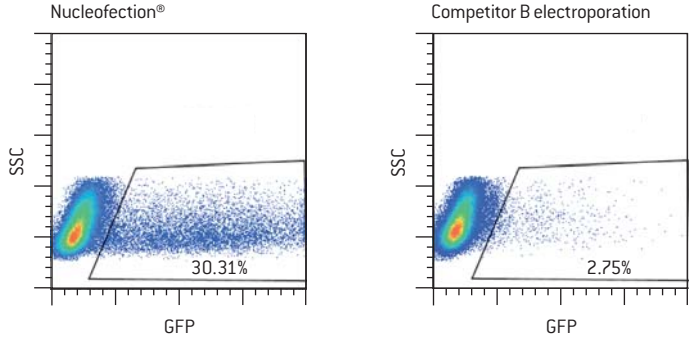

Figure 1: Transfection of the human natural killer cell line NKL using traditional electroporation and Nucleofection®. 5×10^6 NKL cells were transfected with 2.5 µg of pmaxGFP® Vector. Nucleofection®: Nucleofector® Solution V; Program O-017. Competitor B electroporation: 25 mV, 96 µF. Transfection efficiency was monitored by flow cytometry after 24 hours. Cells transfected by Nucleofection® show a significantly better transfection efficiency compared to cells transfected by traditional electroporation. Cell viability, as measured 18 hours after transfection, was also superior using Nucleofection®.
(Data courtesy of Dr. John Coligan, Laboratory of Immunogenetics, NIH/NIAID, Rockville, MD, USA. J Immunol Methods [2004] 284: 133-140.)

Nucleofection® – Your Unique Advantage

Nucleofection® is a technology based on the momentary creation of small pores in cell membranes by applying an electrical pulse. The comprehensive way in which Nucleofector® Programs and cell type-specific solutions are developed leads to nucleic acid substrates that are delivered not only to the cytoplasm, but also through the nuclear membrane and into the nucleus. Transfected cells retain excellent viability and the function of intracellular systems is highly conserved. Whatever your application, Amaxa® Transfection Specialists are available to assist you in rapidly optimizing your transfection workflow.

Nucleic acid delivery direct to the site of action – efficiency and fast expression

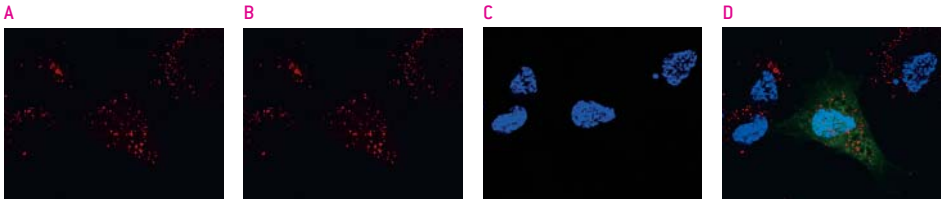

Figure 2: Normal human dermal fibroblasts (neonatal) were transfected with 2.5 µg TMR-labeled plasmid DNA encoding eGFP. After 2 hours, cells were fixed with 3.5% PFA and analyzed by confocal microscopy. TMR label is shown in (A), GFP fluorescence in (B), DAPI nuclear staining in (C) and a merge of all three fluorescent labels in (D).

Conserving functionality – the first step to meaningful analysis

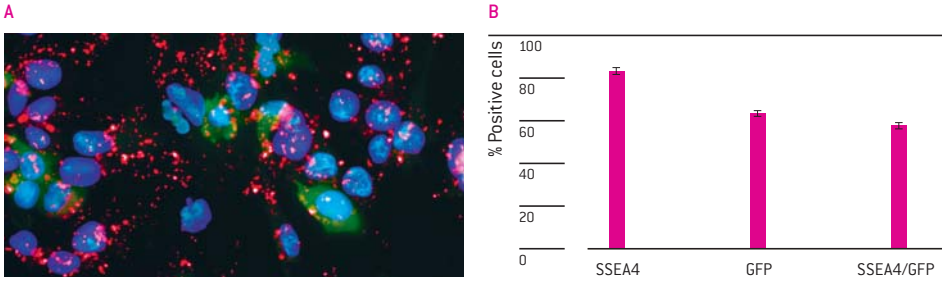

Figure 3: Human H9 ES cells are pluripotent after Nucleofection®. H9 cells were transfected by Nucleofection® with the pmaxGFP® Vector. (A) Cells analyzed after 24 hours show expression of GFP (green) as well as of the pluripotency markers SSEA4 (red) and Oct4 (purple). The blue signals refer to nuclear staining by DAPI. (B) The percentage of double positive cells (GFP/SSEA) was analyzed by flow cytometry.
(Data kindly provided by Jennifer Moore, Rutgers University, Piscataway, USA.)

Device	Nucleofector® Device	96-well Shuttle® System
		
Samples per run	1	1 – 96
Reaction volume	100 µl	20 µl
Cell number	2×10^5 to 2×10^7	5×10^4 to 1×10^6

- www.lonza.com/cell-database
- www.lonza.com/nucleofection-citations

Ordering Information

Cat. No.	Description
AAD-1001S	Nucleofector® Device
AAM-1001S	96-well Shuttle® Device (includes the Nucleofector® Device, notebook PC and software)

Contact your Lonza representative today to request a demo of Nucleofector® Technology in your lab!

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