Plasmid DNA, RNA, siRNA and miRNA

INGENIO® ELECTROPORATION KITS & SOLUTIONS

- **High Efficiency Electroporation**—Deliver DNA or RNA to hard-to-transfect, stem and primary cells
- **Compatible with Most Conventional Electroporation Devices**—Use your existing system including Lonza-Amaxa®, Bio-Rad®, or Harvard BTX®
- **Save Money and Reduce Research Costs Without Sacrificing Performance**—Ingenio® Electroporation Solution is available as a stand-alone solution or as part of a complete kit with cuvettes and cell droppers

Description

Ingenio® Electroporation Solution facilitates efficient and reliable delivery of nucleic acids to eukaryotic cells refractory to chemical transfection. Ingenio is a broad spectrum solution that supports high efficiency electroporation with minimal toxicity and replaces standard electroporation solutions including phosphate buffered saline and serum-free media. Ingenio® Kits (include solution, cuvettes and cell droppers) are compatible with multiple instruments and facilitate a wide range of applications requiring nucleic acid delivery to cells. It is also available as a stand alone solution.

> "I was very depressed for the last 6 months because I was unable to transfect my rat cell line with various transfection reagents. I tried 5 Nucleofection® programs, 2 buffers and several different cell densities. But nothing worked. I am very happy to inform you, Ingenio® is a life saver!"
>
> *Sanal Madhusudana Girija,*
> Albert Einstein College of Medicine

Ingenio® Electroporation Kits for Amaxa® Nucleofector® II/2b Nucleofector Devices
(solution, 0.2 cm cuvettes, cell droppers)

PRODUCT NO.	QUANTITY
MIR 50112	25 RXN
MIR 50115	50 RXN
MIR 50118	100 RXN

Ingenio® Electroporation Kits for All Other Electroporators, such as Bio-Rad® and Harvard BTX®
(solution, 0.4 cm cuvettes, cell droppers)

PRODUCT NO.	QUANTITY
MIR 50113	25 RXN
MIR 50116	50 RXN
MIR 50119	100 RXN

Ingenio® Electroporation Solution

PRODUCT NO.	QUANTITY
MIR 50111	25 RXN
MIR 50114	50 RXN
MIR 50117	100 RXN

Ingenio® Electroporation Accessories

Cuvettes

PRODUCT NO.	SIZE	QUANTITY
MIR 50120	0.2 cm	25 PK
MIR 50121	0.2 cm	50 PK
MIR 50122	0.4 cm	25 PK
MIR 50123	0.4 cm	50 PK

Cell Droppers

PRODUCT NO.	QUANTITY
MIR 50124	25 PK
MIR 50125	50 PK

Ingenio® Electroporation Kits and Solutions *continued*

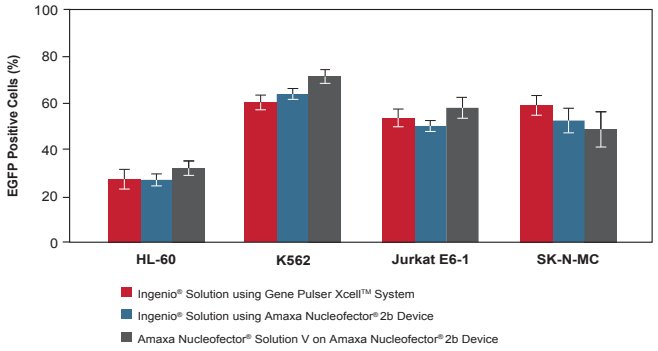

FIGURE 34. Ingenio® Solution Provides Comparable Efficiency on the Amaxa® Nucleofector® II/2b Device. Cells were electroporated in parallel with an EGFP reporter vector. Two electroporators were used with different electroporation kits: the Ingenio® Electroporation Kit was used in the Gene Pulser Xcell™ Eukaryotic System (Bio-Rad) and the Amaxa® Nucleofector® II/2b Device (Lonza); the Amaxa® Nucleofector® Kit V was used in the Amaxa® Nucleofector® II/2b Device, all according to manufacturers' recommendations. EGFP expressing cells were identified 24 hours post-electroporation by flow cytometry and presented as a percentage of the live cell population. Experiments were performed in triplicate on three separate days and the data averaged.

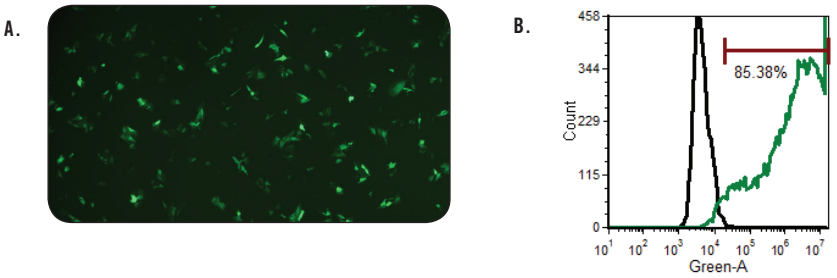

FIGURE 35. High Efficiency Plasmid DNA Electroporation of Human Induced Pluripotent Stem (iPS) Cells using Ingenio®. Ingenio® Electroporation Kit was used to transfect 2 x 10^6 iPS cells on the Amaxa® Nucleofector® II/2b Device. Cells were electroporated with 8 µg ZsGreen expressing plasmid (Clontech) in 100 µl and plated in 6-well plates at 0.33 x 10^6 cells/well. Cells were visualized 24 hours post-transfection and imaged under 4X objective with an Olympus IX71® Inverted Microscope. Image is (A) green fluorescence. Cells were also assayed 24 hours post-transfection on an Accuri® Cytometer. The histogram (B) shows unelectroporated cells (black line) compared to cells electroporated with plasmid using the Ingenio® Electroporation Kit (green line).

Data courtesy of Cellular Dynamics International.

> The Ingenio® Electroporation Kit is routinely used in our lab to transfect induced pluripotent stem cells (iPSCs) via electroporation and yields extremely high transfection efficiency. The Ingenio® Kit is entirely compatible with the Amaxa® Nucleofector® II/2b and is also a much more cost effective solution.
>
> *Elizabeth Dominguez,*
> Cellular Dynamics International (CDI)

Ingenio® Electroporation Kits and Solutions *continued*

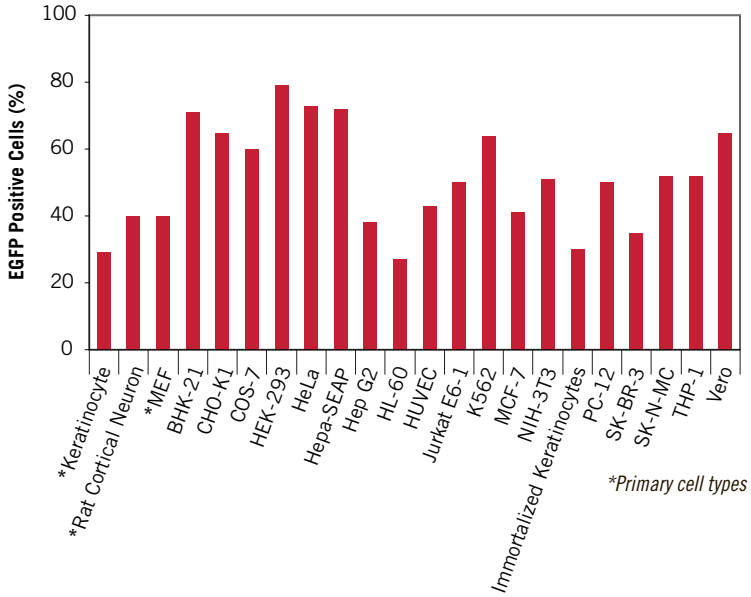

FIGURE 36. Ingenio® Electroporation Kits are Ideal for Electroporation in Many Cell Types Using the Amaxa® Nucleofector® II/2b Device. Cells were assayed at 24 hours post-electroporation by flow cytometry and reported as percentage of live cell population. Visit www.mirusbio.com for ideal pulse conditions.

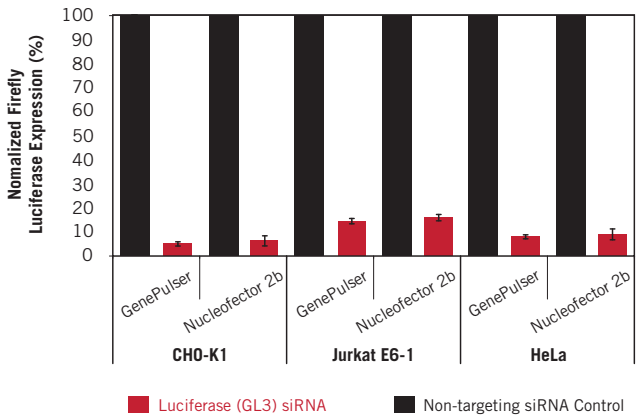

FIGURE 37. Ingenio® Kits Effectively Electroporate siRNA in the Amaxa® Nucleofector® II/2b and the GenePulser® Electroporators. siRNA and plasmid DNA were co-electroporated with the indicated cell lines with the Ingenio® electroporation solution in 0.2 cm cuvettes using either the GenePulser® (Bio-Rad) or the Amaxa® Nucleofector® II/2b (Lonza). Plasmid encoding firefly luciferase (10 µg/ml) was co-electroporated with 250nM of either non-targeting siRNA control or GL3 siRNA into Jurkat E6-1, HeLa and CHO-K1 cells. Twenty-four hours post electroporation, cells were harvested and assayed for luciferase activity. Data from independent experiments performed on different days were averaged then scaled to non-targeting siRNA control and are represented as a percentage of the control.

Ingenio® Electroporation Kits and Solutions *continued*

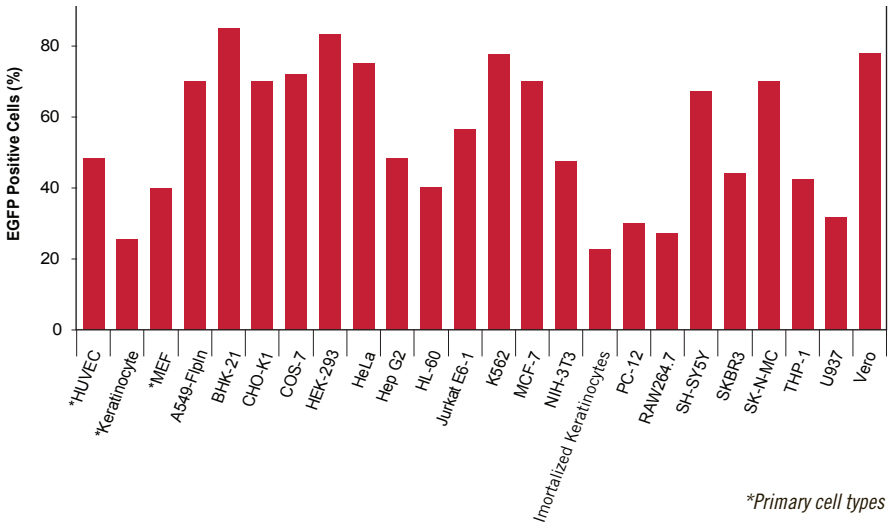

FIGURE 38. Ingenio® Electroporation Kits are Ideal for Electroporation in Many Cell Types Using the Bio-Rad® GenePulser Xcell™ System. EGFP expressing cells were identified 24 hours post-electroporation by flow cytometry and presented as a percentage of the live cell population. Visit www.mirusbio.com for ideal pulse conditions.

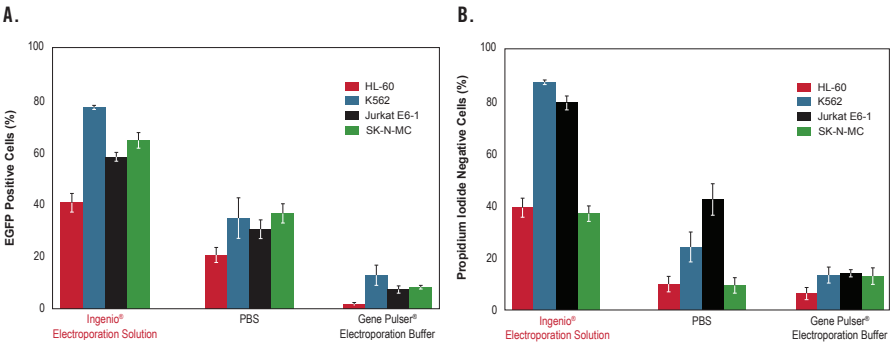

FIGURE 39. Ingenio® Kits Outperforms Other Electroporation Solutions in Efficiency and Viability. Cells were electroporated in parallel with an EGFP reporter vector using either Ingenio® Electroporation Solution, PBS or GenePulser® Electroporation Buffer (Bio-Rad) on the GenePulser Xcell™ Eukaryotic System. (A) EGFP expressing cells were identified 24 hours post-electroporation by flow cytometry and presented as a percentage of the live cell population. (B) Cells were assayed for viablility by propidium iodide staining and flow cytometry analysis. Error bars represent the standard deviation of triplicate wells.