

Exponential Decay for Ingenio® EZporator® and other Electroporation Devices

Cell Type	Cuvette Size (cm)	Cell Density (x10 ⁶) cells/ml	DNA(μg)	Electroporation Volume (μl)	Voltage (V)	Capacitance (μF)
Primary Human Keratinocyte	0.2	2	2	100	150	950 - 1050
	0.4		5	250	220	950 - 1050
Primary MEFs	0.2	5	2	100	150	950 - 1050
	0.4		5	250	230	950 - 1050
Primary Rat Cortical Neuron	0.2	1	2	100	120	950 - 1050
	0.4		-	-	-	-
A-549	0.2	5	-	-	-	-
	0.4		5	250	280	950 - 1050
BHK-21	0.2	10	2	100	150	950 - 1050
	0.4		5	250	280	950 - 1050
CHO-K1	0.2	5	2	100	150	950 - 1050
	0.4		5	250	280	950 - 1050
COS-7	0.2	5	2	100	150	950 - 1050
	0.4		5	250	260	950 - 1050
HEK-293	0.2	5	2	100	160	950 - 1050
	0.4		5	250	250	950 - 1050
HEK-293T	0.2	5	-	-	-	-
	0.4		5	250	250	950 - 1050
HeLa	0.2	3	2	100	130	950 - 1050
	0.4		5	250	260	950 - 1050
Hepa	0.2	5	2	100	160	950 - 1050
	0.4		-	-	-	-
HepG2	0.2	5	2	100	170	950 - 1050
	0.4		5	250	250	950 - 1050
HL-60	0.2	10	2	100	150	950 - 1050
	0.4		5	250	275	950 - 1050
HUV-EC	0.2	3	-	-	-	-
	0.4		5	250	250	950 - 1050
Jurkat E6-1	0.2	10	2	100	150	950 - 1050
	0.4		5	250	260	950 - 1050
K562	0.2	10	2	100	130	950 - 1050
	0.4		5	250	250	950 - 1050
MCF-7	0.2	3	2	100	150	950 - 1050
	0.4		-	-	-	-
NIH-3T3	0.2	10	2	100	160	950 - 1050
	0.4		5	250	260	950 - 1050
NIKS	0.2	2	2	100	170	950 - 1050
	0.4		5	250	280	950 - 1050
PC-12	0.2	3	2	100	130	950 - 1050
	0.4		5	250	240	950 - 1050
RAW 264.7	0.2	5	2	100	150	950 - 1050
	0.4		5	250	260	950 - 1050
SH-SY5Y	0.2	5	-	-	-	-
	0.4		5	250	250	950 - 1050
SK-BR-3	0.2	5	2	100	160	950 - 1050
	0.4		5	250	260	950 - 1050
SK-N-MC	0.2	5	2	100	90	950 - 1050
	0.4		5	250	240	950 - 1050
THP-1	0.2	10	2	100	140	950 - 1050
	0.4		5	250	250	950 - 1050
U-937	0.2	10	-	-	-	-
	0.4		5	250	260	950 - 1050
Vero	0.2	5	2	100	170	950 - 1050
	0.4		-	-	-	-
Other (Starting Point)	0.2	5-10	2	100	80-160	800 - 1050
	0.4		5	250	200-300	800 - 1050

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Recommended Pulse Conditions for Ingenio[®] Electroporation Solution and Kits

Ingenio[®] Solution on amaxa[®] Nucleofector[®] II

Cell Type	Program Setting	DNA (µg)	Cell Density (x10 ⁶) cells/ml
Primary Human Keratinocyte	T-018	2	2
Primary MEFs	A-023, T-020	2	5
Primary Rat Cortical Neuron	O-003	2	1
A-549	X-001	2	2
BHK-21	A-031	2	10
CHO-K1	U-023	2	5
COS-7	W-001	2	5
HEK-293	Q-001	2	5
HEK-293T	Q-001	2	5
HeLa	I-013	2	3
HepG2	T-028	2	5
HL-60	T-019	2	10
HUVEC	V-001	2	3
Jurkat	X-001	2	10
K562	T-016	2	10
MCF-7	P-020	2	3
NIH-3T3	U-030	2	10
NIKS	T-018	2	2
PC-12	U-029	2	3
RAW 264.7	D-032	2	5
SK-BR-3	E-009	2	5
SK-N-MC	S-020	2	5
THP-1	V-001	2	10
U-937	W-001	2	5
Vero	V-001	2	5
<i>Other (starting point)</i>	Follow amaxa Nucleofector recommendations per cell line or contact Technical Support		

Standard Square Wave Electroporation

Cell Type	Cuvette Size (cm)	Cell Density (x10 ⁶) cells/ml	DNA (µg)	Electroporation Volume (µl)	Voltage (V)	Capacitance (µF)	Pulse Length (mSec)
Primary Human Keratinocyte	0.2	2	2	100	170	950	10
	0.4		5	250	250	950	15
Primary MEFs	0.2	5	2	100	170	950	10
	0.4		5	250	280	950	15
A-549	0.2	5	–	–	–	–	–
	0.4		5	250	280	950	15
Jurkat E6-1	0.2	10	2	100	180	950	10
	0.4		5	250	275	950	15
NIH-3T3	0.2	10	2	100	160	950	10
	0.4		5	250	260	950	15
NIKS	0.2	2	2	100	180	950	10
	0.4		–	–	–	–	–

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