

Gene Pulser Xcell™ Electroporation System Quick Guide

Manual Operation

- From the Home Screen:
 - Press Enter to select exponential decay;
 - Press 2, then Enter to select exponential decay but specifying a time constant;
 - Press 3, then Enter to select square wave.
- Use the Up and Down Arrow keys to scroll through the parameter value spaces on the screen. When a parameter value is highlighted, use the keypad to enter a value, then press Enter to accept that value.
- When the necessary parameter values have been entered, the Pulse button on the Gene Pulser Xcell is active.
- Press the Pulse button to electroporate the sample.
- Press the Back key to return to the Protocol Detail screen and to deliver another pulse.

Using a Pre-set Protocol

- From the Home Screen, press 4, then Enter to show the Pre-set Protocols screen.
- Press 1–3 to choose between bacterial, fungal, or mammalian cells; press Enter to select the organism type and to show the list of organisms. For Bacterial and Mammalian Pre-set Protocols, use the Right and Left Arrows keys to toggle between the two screens.
- Press the number next to the protocol to highlight it. Press Enter to select and to show the Protocol Detail screen.
- Press the Pulse button to electroporate the sample.
- Press the Back key to return to the Protocol Detail screen and to deliver another pulse.

Using a User Protocol

- From the Home screen, press 5, then Enter to open the User Protocols menu and to show the first User Directory screen. Use the Right and Left Arrow keys to toggle between the two screens.
 - Press 1–12 to highlight the desired name; press Enter to select that name to show the first User Protocols screen. Use the Right and Left Arrow keys to toggle between the two screens.
 - Press 1–12 to highlight the desired protocol name; press Enter to select that protocol and to show the Protocol Detail screen. The Pulse button on the Gene Pulser Xcell is now active.
 - Press the Pulse button to electroporate the sample.
 - Press the Back key to return to the Protocol Detail screen and to deliver another pulse.
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Pre-set Protocols for the Gene Pulser Xcell

Pre-set Protocol Designation	Cells	Pulse type	PL (msec)	C (µF)	PC (ohm)	V	Cuvette (cm)	Cell vol (µl)	
Mammalian Protocols									
Mammalian 1	CHO	Square wave	15			160	0.2	100	
Mammalian 2	COS7	Square wave	20			110	0.2	100	
Mammalian 3	3T3	Exponential decay		500		160	0.2	100	
Mammalian 4	293	Square wave	25			110	0.2	100	
Mammalian 5	HeLa	Exponential decay		500		160	0.2	100	
Mammalian 6	BHK21	Square wave	25			140	0.2	100	
Mammalian 7	A549	Square wave	10			150	0.2	100	
Mammalian 8	CV1	Square wave	25			100	0.2	100	
Mammalian 9	K562	Exponential decay		1000		155	0.2	100	
Mammalian 10	HL60	Square wave	25			140	0.2	100	
Mammalian 11	Jurkat	Exponential decay		1000		140	0.2	100	
Mammalian 12	HuT78	Square wave	25			130	0.2	100	
Bacterial Protocols									
Bacterial 1	E coli	Exponential decay		25	200	1800	0.1	20	
Bacterial 2	E coli	Exponential decay		25	200	2500	0.2	20-40	
Bacterial 3	E coli	Exponential decay		25	200	3000	0.2	20-40	
Bacterial 4	A tumefaciens	Exponential decay		25	200	2400	0.1	20	
Bacterial 5	P aeruginosa	Exponential decay		25	200	2500	0.2	100	
Bacterial 6	S aureus	Exponential decay		25	100	2900	0.2	50	
Bacterial 7	B cereus	Exponential decay		50	200	1000	0.2	100	
Bacterial 8	S pyogenes	Exponential decay		25	200	2100	0.2	200	
Bacterial 9	L plantarum	Exponential decay		25	400	1500	0.2	40	
Fungal Protocols									
Fungal 1	S cerevisiae	Exponential decay		25	200	1500	0.2	40	
Fungal 2	S cerevisiae	Exponential decay		25	200	2500	0.4	80	
Fungal 3	S pombe	Exponential decay		25	200	2300	0.2	40	
Fungal 4	C albicans	Exponential decay		25	200	1500	0.2	40	
Fungal 5	P pastoris	Exponential decay		25	200	2000	0.2	40	
Fungal 6	D discoideum	Exponential decay		10	600	1000	0.4	800 2 pulses	

For a complete Gene Pulser Xcell instruction manual or technical service, call your local Bio-Rad office or visit our website at www.discover.bio-rad.com.



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