Extracted gDNA Plate Compression

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ABSTRACT

This protocol describes how to make an acoustic droplet ejection compatible plate for liquid handling on the Echo 555 using an epMotion 5075. The protocol expects (4) 96-well gDNA plates and an empty 384-well polypropylene (PP) echo destination plate. The 4 plates will be compressed in a fully interweaved layout. The following images depict this pattern.

#1	1	2	3	4	5	6	7	8	9	10	11	12
A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
B	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
C	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
E	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
F	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
G	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
H	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12

#2	1	2	3	4	5	6	7	8	9	10	11	12
A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
B	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
C	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
E	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
F	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
G	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
H	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12

#3	1	2	3	4	5	6	7	8	9	10	11	12
A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
B	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
C	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
E	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
F	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
G	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
H	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12

#4	1	2	3	4	5	6	7	8	9	10	11	12
A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
B	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
C	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
E	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12
F	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
G	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
H	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12

PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A1	A1	A2	A2	A3	A3	A4	A4	A5	A5	A6	A6	A7	A7	A8	A8	A9	A9	A10	A10	A11	A11	A12	A12
B	A1	A1	A2	A2	A3	A3	A4	A4	A5	A5	A6	A6	A7	A7	A8	A8	A9	A9	A10	A10	A11	A11	A12	A12
C	B1	B1	B2	B2	B3	B3	B4	B4	B5	B5	B6	B6	B7	B7	B8	B8	B9	B9	B10	B10	B11	B11	B12	B12
D	B1	B1	B2	B2	B3	B3	B4	B4	B5	B5	B6	B6	B7	B7	B8	B8	B9	B9	B10	B10	B11	B11	B12	B12
E	C1	C1	C2	C2	C3	C3	C4	C4	C5	C5	C6	C6	C7	C7	C8	C8	C9	C9	C10	C10	C11	C11	C12	C12
F	C1	C1	C2	C2	C3	C3	C4	C4	C5	C5	C6	C6	C7	C7	C8	C8	C9	C9	C10	C10	C11	C11	C12	C12
G	D1	D1	D2	D2	D3	D3	D4	D4	D5	D5	D6	D6	D7	D7	D8	D8	D9	D9	D10	D10	D11	D11	D12	D12
H	D1	D1	D2	D2	D3	D3	D4	D4	D5	D5	D6	D6	D7	D7	D8	D8	D9	D9	D10	D10	D11	D11	D12	D12
I	E1	E1	E2	E2	E3	E3	E4	E4	E5	E5	E6	E6	E7	E7	E8	E8	E9	E9	E10	E10	E11	E11	E12	E12
J	E1	E1	E2	E2	E3	E3	E4	E4	E5	E5	E6	E6	E7	E7	E8	E8	E9	E9	E10	E10	E11	E11	E12	E12
K	F1	F1	F2	F2	F3	F3	F4	F4	F5	F5	F6	F6	F7	F7	F8	F8	F9	F9	F10	F10	F11	F11	F12	F12
L	F1	F1	F2	F2	F3	F3	F4	F4	F5	F5	F6	F6	F7	F7	F8	F8	F9	F9	F10	F10	F11	F11	F12	F12
M	G1	G1	G2	G2	G3	G3	G4	G4	G5	G5	G6	G6	G7	G7	G8	G8	G9	G9	G10	G10	G11	G11	G12	G12
N	G1	G1	G2	G2	G3	G3	G4	G4	G5	G5	G6	G6	G7	G7	G8	G8	G9	G9	G10	G10	G11	G11	G12	G12
O	H1	H1	H2	H2	H3	H3	H4	H4	H5	H5	H6	H6	H7	H7	H8	H8	H9	H9	H10	H10	H11	H11	H12	H12
P	H1	H1	H2	H2	H3	H3	H4	H4	H5	H5	H6	H6	H7	H7	H8	H8	H9	H9	H10	H10	H11	H11	H12	H12

#1	#2
#3	#4

PROTOCOL STATUS

Working

We use this protocol in our group and it is working

MATERIALS

NAME	CATALOG #	VENDOR
ep T.I.P.S. Motion Racks 20 - 300 µL w/ filter	0030014456	Eppendorf
384-Well Polypropylene Microplate	P-05525	
KingFisher Microplate	97002540	Thermo Fisher Scientific

MATERIALS TEXT

(4) ep T.I.P.S. Motion Racks 20- 300 µL w/filter
(4) gDNA Plates: 96-well KingFisher microplates with extracted gDNA
(1) Compressed gDNA Plate: 384-well PP plate for Echo liquid handling

BEFORE STARTING

Please wear at least the minimum required personal protective equipment.
Ensure that all necessary kit components are available as well as user-supplied consumables.
Remove nuclease and nucleotide contamination from work surfaces and instruments prior to starting using an appropriate solution, such as RNase AWAY™ (Thermo Scientific™ catalogue: 700511), followed by wiping with 70% to 100% molecular biology grade ethanol to remove additional contaminants.

Prepare gDNA plates

1 Thaw and centrifuge gDNA plates.

2 Appropriately label destination plate.

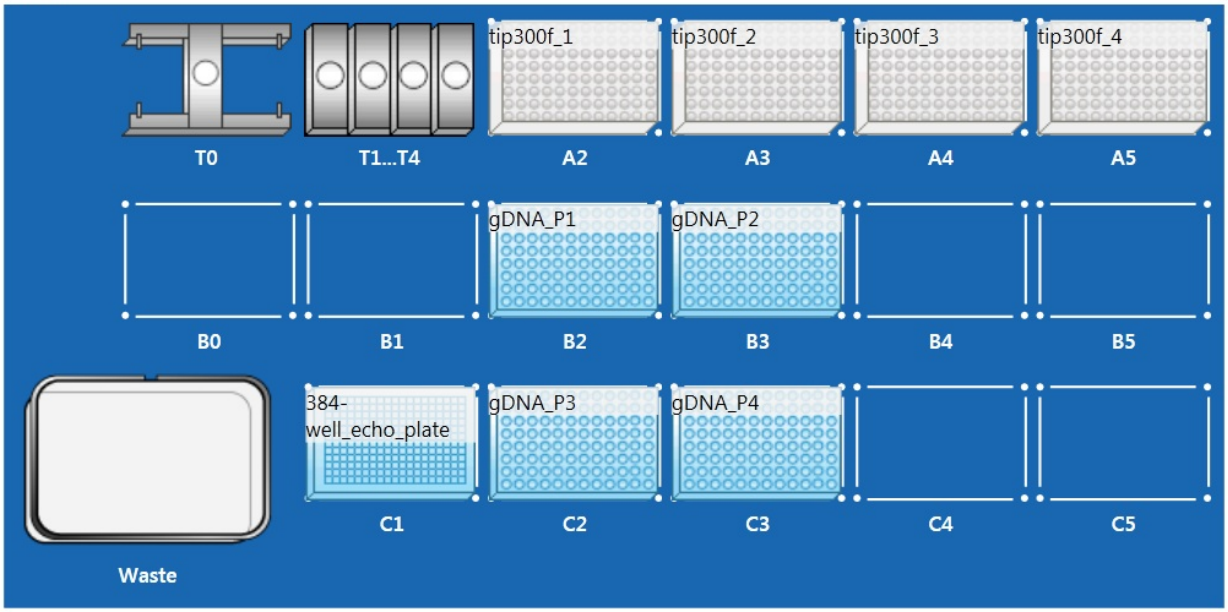
Setup epMotion automation platform

3

EQUIPMENT
epMotion 5075
Liquid Handling
Eppendorf 5075000962

Follow the diagram below while setting up the epMotion worktable.

Worktable



Place (4) boxes of 20 - 300 µL epT.I.P.S. w/filters on deck slots A2-A5.
Place 96-well gDNA Plates 1-4 on deck slots B2-B3 and C2-C3 respectively.
Place 384-well PP or LDV Destination Plate on slot C1

Execute automated protocol

4 Remove box lids and plate foils and execute protocol.

(Protocol must be imported to epBlue software prior to attempting to execute it. *epBlue 40.6 or later*)

Application_gDNA_plate compression_4-96 to 1-384 pp_181003_105135.export6

The automated protocol transfers 60µL of extracted gDNA from each source well into the destination plate following the plate layout outlined in the description of this protocol.io

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