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Creating Plate Layout in FIVTools



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Protocol status: Working

We use this protocol and it's working

Created: April 15, 2024

Last Modified: April 15, 2024

Protocol Integer ID: 98210

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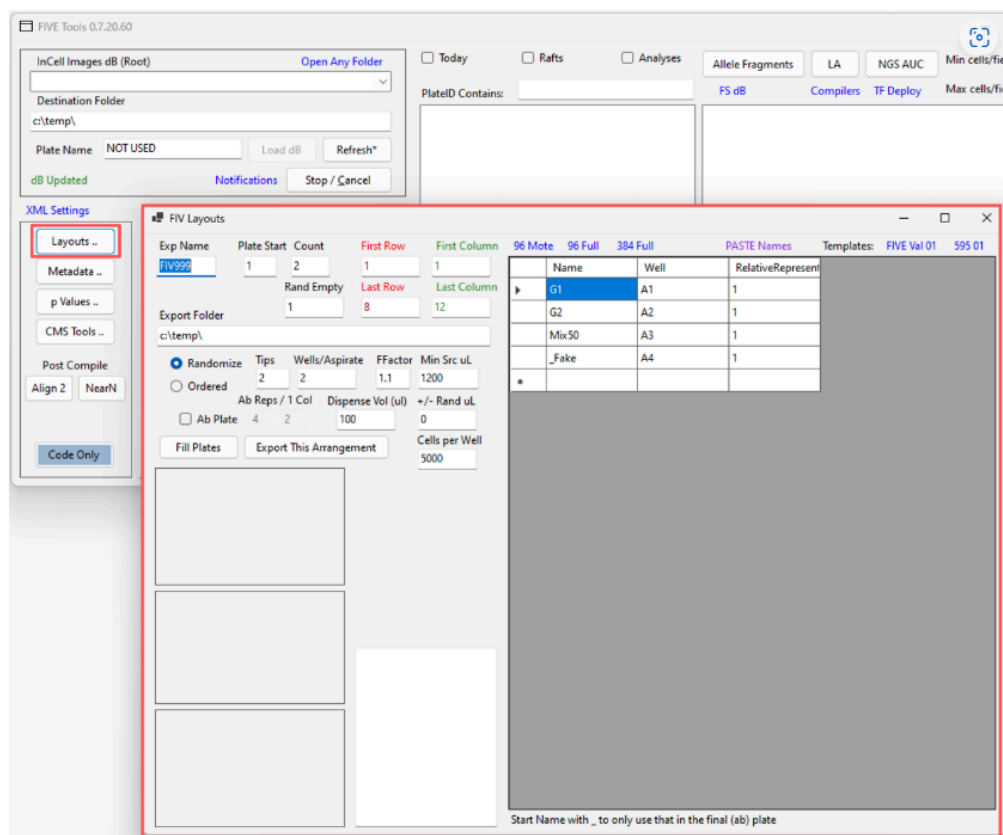
Abstract

Plate layout creator in FIVtools

Troubleshooting

Creating Plate Layout in FIVTools

- 1 Open FIVTools
- 2 Click *Layouts*



- 3 Update *Exp Name* field (highlighted in blue above) to the corresponding FIV experiment Number (make sure to keep "FIV" in the name)
- 4 Click once on the *Export Folder* field so it updates the folder location based on the corresponding FIV experiment number
- 5 Choose the desired number of 96-well Plates by typing 1, 2, 3, or 4 in Count



FIV Layouts

Exp Name: FIV816 Plate Start: 1 Count: 2 First Row: 1 First Column: 1
Last Row: 8 Last Column: 12

Export Folder: R:\FIVE\Exp\FIV816\4 Mapping\S1\

☒ Randomize Tips: 2 Wells/Aspirate: 2 FFactor: 1.1 Min Src uL: 1200
☐ Ordered

☐ Ab Plate Ab Reps / 1 Col: 4 2 Dispense Vol (uL): 100 +/- Rand uL: 0

Cells per Well: 4000

96 Mote 96 Full 384 Full PASTE Names

Name	Well	RelativeRepresent
AIP	A1	1
FAM195A	A2	1
AIFM1	A3	1
TIMM8A	A4	1
ASAH2	B1	1
SLC25A51	B2	1
BRI3BP	B3	1
STARD3	B4	1
NONTARGET	C1	1
MFN2	C2	1
ATP5G3	C3	1
R94Q	C4	1

94 Total
AIP: 6 (plt,row,col)
(0.43, 4.1, 4.4)
FAM195A: 8 (plt,row,col)
(0.57, 5.0, 7.8)
AIFM1: 8 (plt,row,col)
(0.50, 4.0, 5.8)
TIMM8A: 8 (plt,row,col)
(0.50, 4.3, 4.3)
ASAH2: 8 (plt,row,col)
(0.50, 4.8, 8.3)
SLC25A51: 8 (plt,row,col)
(0.50, 4.9, 6.8)

Start Name with _ to only use that in the final (ab) plate

6 Select 96 Mote to exclude plating from the outermost wells



FIV Layouts

Exp Name: FIV816 Plate Start: 1 Count: 2 First Row: 1 First Column: 1 96 Mote 96 Full 384 Full PASTE Names

Rand Empty: 1 Last Row: 8 Last Column: 12

Export Folder: R:\FIVE\Exp\FIV816\4 Mapping\S1\

☒ Randomize Tips: 2 Wells/Aspirate: 2 FFactor: 1.1 Min Src uL: 1200

☐ Ordered

☐ Ab Plate Ab Reps / 1 Col: 4 2 Dispense Vol (uL): 100 +/- Rand uL: 0

Cells per Well: 4000

Well Plate Layout (Color-coded):

- AIP
- FAM195A
- AIFM1
- TIMM8A
- ASAH2
- SLC25A51
- BRI3BP
- STARD3
- NONTARGET
- MFN2
- ATP5G3
- R94Q

94 Total

AIP: 6 (plt,row,col)
(0.43, 4.1, 4.4)

FAM195A: 8 (plt,row,col)
(0.57, 5.0, 7.8)

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SLC25A51: 8 (plt,row,col)
(0.50, 4.9, 6.8)

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AIFM1	A3	1
TIMM8A	A4	1
ASAH2	B1	1
SLC25A51	B2	1
BRI3BP	B3	1
STARD3	B4	1
NONTARGET	C1	1
MFN2	C2	1
ATP5G3	C3	1
R94Q	C4	1

Start Name with _ to only use that in the final (ab) plate

- 7 Select "384 Full" for a 384 well plate
- 8 If the layout is not standard (does not fall within 96 mote, 96 full, or 384 full), adjust the *First Row*, *First Column*, *Last Row*, and *Last Column* fields to fit your custom plate format.



FIV Layouts

Exp Name: FIV816 Plate Start: 1 Count: 2

First Row: 1 First Column: 1

Last Row: 8 Last Column: 12

Export Folder: R:\FIVE\Exp\FIV816\4 Mapping\S1\

☒ Randomize ☐ Ordered

Tips: 2 Wells/Aspirate: 2 FFactor: 1.1 Min Src uL: 1200

Ab Reps / 1 Col: 4 Dispense Vol (uL): 100 +/- Rand uL: 0

☐ Ab Plate

Fill Plates **Export This Arrangement** Cells per Well: 4000

94 Total

AIP: 6 (plt,row,col)
(0.43, 4.1, 4.4)

FAM195A: 8 (plt,row,col)
(0.57, 5.0, 7.8)

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TIMM8A: 8 (plt,row,col)
(0.50, 4.3, 4.3)

ASAH2: 8 (plt,row,col)
(0.50, 4.8, 8.3)

SLC25A51: 8 (plt,row,col)
(0.50, 4.9, 6.8)

BR13BP
STARD3
NONTARGET
MFN2
ATP5G3
R94Q

Name	Well	RelativeRepresent
AIP	A1	1
FAM195A	A2	1
AIFM1	A3	1
TIMM8A	A4	1
ASAH2	B1	1
SLC25A51	B2	1
BR13BP	B3	1
STARD3	B4	1
NONTARGET	C1	1
MFN2	C2	1
ATP5G3	C3	1
R94Q	C4	1

Start Name with _ to only use that in the final (ab) plate

- 9 If doing an antibody plate, check the "Ab Plate" box and:
Make "Count" = 0 for one antibody plate
Make "Count" = 2 for two 96-well plates and an antibody plate
- 10 Change "Cells per Well" to desired plating density

FIV Layouts

Exp Name: FIV816 Plate Start: 1 Count: 2 First Row: 1 First Column: 1
 Last Row: 8 Last Column: 12
 Export Folder: R:\FIVE\Exp\FIV816\4 Mapping\S1\

☒ Randomize ☐ Ordered
 Tips: 2 Wells/Aspirate: 2 FFactor: 1.1 Min Src uL: 1200
 Ab Reps / 1 Col: 4 Dispense Vol (uL): 100 +/- Rand uL: 0
☐ Ab Plate

Fill Plates **Export This Arrangement** **Cells per Well: 4000**

Well Map:

AIP	FAM195A	AIFM1	TIMM8A	ASAH2	SLC25A51	BRI3BP	STARD3	NONTARGET	MFN2	ATP5G3	R94Q
-----	---------	-------	--------	-------	----------	--------	--------	-----------	------	--------	------

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 ASAH2: 8 (plt,row,col)
 (0.50, 4.8, 8.3)
 SLC25A51: 8 (plt,row,col)
 (0.50, 4.9, 6.8)

PASTE Names

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FAM195A	A2	1
AIFM1	A3	1
TIMM8A	A4	1
ASAH2	B1	1
SLC25A51	B2	1
BRI3BP	B3	1
STARD3	B4	1
NONTARGET	C1	1
MFN2	C2	1
ATP5G3	C3	1
R94Q	C4	1

Start Name with _ to only use that in the final (ab) plate

- Copy experimental condition names (often genotypes, dosages, G1/G2, etc.) and click "PASTE Names" to auto-fill the 12-well source plate.

FIV Layouts

Exp Name: FIV816 Plate Start: 1 Count: 2 First Row: 1 First Column: 1
 Rand Empty: 1 Last Row: 8 Last Column: 12

Export Folder: R:\FIVE\Exp\FIV816\4 Mapping\S1\

☒ Randomize Tips: 2 Wells/Aspirate: 2 FFactor: 1.1 Min Src uL: 1200
☐ Ordered

Ab Reps / 1 Col: 4 2 Dispense Vol (uL): 100 +/- Rand uL: 0

☒ Ab Plate

Fill Plates **Export This Arrangement** **Cells per Well: 4000**

Visual representation of the plate layout with colored wells and a list of conditions:

- AIP
- FAM195A
- AIFM1
- TIMM8A
- ASAH2
- SLC25A51
- BRI3BP
- STARD3
- NONTARGET
- MFN2
- ATP5G3
- R94Q

94 Total
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ASAH2	B1	1
SLC25A51	B2	1
BRI3BP	B3	1
STARD3	B4	1
NONTARGET	C1	1
MFN2	C2	1
ATP5G3	C3	1
R94Q	C4	1

Start Name with _ to only use that in the final (ab) plate

- 12 *Name* can also be manually filled
- 13 The *Well* column can only have row/column combinations of a 12-well plate (A-C, 1-4). Please note which names (experimental conditions) correspond to which wells.
- 14 *Relative Representation* allows you to assign different weights for representation in the 96-well plates
- 15 Use the underscore symbol to have a cell type only show up in the antibody plate layout (for example: "_cell type")
- 16 Click *Fill Plates* (in red)

FIV Layouts

Exp Name: FIV816 Plate Start: 1 Count: 2 First Row: 1 First Column: 1 96 Mote 96 Full 384 Full PASTE Names

Export Folder: R:\FIVE\Exp\FIV816\4 Mapping\S1\

Randomize ☒ Tips: 2 Wells/Aspirate: 2 FFactor: 1.1 Min Src uL: 1200

Ordered ☐ Ab Reps / 1 Col: 4 2 Dispense Vol (uL): 100 +/- Rand uL: 0

☐ Ab Plate ☐ Fill Plates ☐ Export This Arrangement ☐ Cells per Well: 4000

94 Total

AIP: 6 (plt,row,col)
(0.43, 4.1, 4.4)

FAM195A: 8 (plt,row,col)
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ASAH2: 8 (plt,row,col)
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SLC25A51: 8 (plt,row,col)
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BR13BP
STARD3
NONTARGET
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SLC25A51	B2	1
BR13BP	B3	1
STARD3	B4	1
NONTARGET	C1	1
MFN2	C2	1
ATP5G3	C3	1
R94Q	C4	1

Start Name with _ to only use that in the final (ab) plate

- 17 A randomized plate layout will be populated based on your input criteria. Each condition will have a unique color in the layout window. Try to make sure the empty wells (positions with white space/no circles) are not on any edges. Also if doing multiple plates, make sure the empty wells are oriented differently across plates.
- 18 Go into the "4 Mapping" folder of the respective FIV experiment folder and make sure there is a PlateMap, PlatingSetup, and script.

This PC > active (\\storage1.ris.wustl.edu\\wbuchser) (R:) > FIVE > EXP > FIV816 > 4 Mapping > S1

Name	Date modified	Type	Size
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FIV816P2.jpg	4/26/2023 6:38 PM	JPG File	8 KB
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FIV816S1_PlatingSetup.txt	4/26/2023 11:27 PM	Text Document	2 KB
FIV816S1_script.vb	4/26/2023 6:38 PM	Visual Basic Sourc...	26 KB

- 19 After source and destination plates are physically created, excute Biomek plating in accordance with

Biomek 96-well plating - Google Docs