TF Condition Viewer 3.0

User Manual



Tokoh Building 6F, 1-8-10, Nihonbashi-Muromachi, Chuo-Ku, Tokyo 103-0022, Japan TEL: +81-3-3278-1321 / FAX: +81-3-3278-1323 <u>http://www.cytopathfinder.com</u>

Requirements

- Software: Excel2003 or later version.
- Hardware: Compliant with Excel2003

Installation

As the TF Condition Viewer (TFCV) is based on Excel VBA, please change the macro security settings in Microsoft Excel to run the application as necessary. If you need help to change the macro security settings, please go to the Microsoft Office website.

- <u>Excel2003</u>
- <u>Excel2007</u>
- <u>Excel2010</u>

Operation

Microsoft Excel - TFGV3.0.xls																	
12] ファイルビ 編集(1) 表示(1) 挿入(1) 書式(10) ツール(1) データ(10) ウインドウ(10) ヘルブ(10)															を入力してくださ	501 💌 🗕	₽×
CP TF Condition Viewer 3.0						Layout 384well Ver2.0					ОК		Clear)	•	
Pa	ste data	a into [List T	ype] or [Pla	te Type]					Δ			R		(
Lis	t Type		Lavout										-				
No	Well	Intensity	Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	Π.
1	A1		A	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	
2	A2	i i i i i i i i i i i i i i i i i i i	В	blank	UT	001	001	002	002	003	003	004	004	005	005	036	
3	A3		С	blank	UT	006	006	007	007	008	008	009	009	010	010	041	
4	A4		D	blank	UT	011	011	012	012	013	013	014	014	015	015	046	
5	A5		E	blank	UT	016	016	017	017	018	018	019	019	020	020	051	
6	A6		F	blank	UT	021	021	022	022	023	023	024	024	025	025	056	
7	A7		G	blank	UT	026	026	027	027	028	028	029	029	030	030	061	
8	A8		н	blank	UT	031	031	032	032	3	033	034	034	035	035	066	
9	A9		1.	blank	UT	071	071	072	072	3	073	074	074	075	075	106	
10	A10		J	blank	UT	076	076	077	077	078	078	079	079	080	080	111	
11	A11		к	blank	UT	081	081	082	082	083	083	084	084	085	085	116	
12	A12		L	blank	UT	086	086	087	087	088	088	089	089	090	090	121	
13	A13		м	blank	UT	091	091	092	092	093	093	094	094	095	095	126	
14	A14		N	blank	UT	096	096	097	097	098	098	099	099	100	100	131	
15	A15		0	blank	UT	101	101	102	102	103	103	104	104	105	105	136	
16	A		Р	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	blank	
17																	-
18	A18													Block1	Block2	Block3	
19	A19																-
20	A20		Plate Type														
21	A21		Intensity	1	2	3	4	5	6	7	8	9	10	11	12	13	
22	A22		A														
23	A23		В														
24	A24		С														
25	B1		D														
26	6 B2		E														
27	B3		F							_						1	
28	B4		G							E							Γ
29	B5		н														
30	B6		1								1			1			
31	B7		J														
32	B8		к														T
33	B9		L														
34	B10		M														
31	TEOL		N				1		1			1	1	1			t-v
	IN THOUS	10/								1				-	0	CPI	5
JULY															3	JUL	:

A: the layout drop-down list. B: the "OK" button to create the data summarized workbook.

C: the "Clear" button to clear all input areas (E, F). D: the selected layout. E, F: the data input area.

- Choose the layout type of the transfection conditions plate which was used for the assay; the selected layout is shown at the "Layout" area (D). The layout drop-down list is common to human and mouse/rat (A). The appropriate version is marked on the product label. Please note that if you change the plate type (96-, 384or 1536 well-plate), any numeric data which have already been added to the input areas (E, F) will be cleared.
- Paste your data into the input area E or F according to the data format of your plate reader (list/plate type). (The input area which has not been entered directly will be filled automatically.)
- 3. Click the "OK" button (B) to analyse the data and to create the new data workbook which contains the 2 worksheets shown below.
- 4. Click the "Clear" button (C) to clear all input areas as necessary.



Result Workbook [Worksheet1: Raw Data]

- **a.** The data list consists of the layout information (the plate/block number, the well address, the conditions number, siRNA names) and the intensity data.
 - Plate: the plate number. In case of 96-well plates, the layout consists of four plates.
 - Block: the group number. Each layout consists of four blocks and each block contains different concentrations of buffer and siRNA.
 - Well: the address of the well location.
 - Condition: the serial number of condition. Each condition consists of a set of "Neg" and "Pos" siRNAs.
 - siRNA: the type of siRNA.
 - ✓ blank: "blank" means the well does not contain any reagents, to reduce edge effects.
 - ✓ UT: "un-transfected" does not contain any reagents, used as the control against "Neg" when the evaluation of the transfection toxicity.
 - ✓ Neg: the negative control siRNA which does not target any gene product.
 - \checkmark Pos: the positive control siRNA which leads to cytotoxicity.
- **b.** The table of the blocks and the conditions.

- **c.** The table of the intensity data and a colour map. In case of Excel2003, the colour map and its legend are made from AutoShapes which are the drawing objects of Excel. In case of Excel2007 or later versions, the colour map is represented by Excel conditional formatting excepting the colour legend.
- **d.** The collected data for "UT" chart (**f**).
- e. The collected data for each block chart (g).
- **f.** The bar chart of "UT"s.
- g. The bar charts of each condition of each block.

Result Workbook [Worksheet2: Calculated Data]



h. The basic statistical data (mean, sd and cv) of "UT"

- i. The list of the evaluation of data for each condition such as "Viability" and "Efficiency".
 - Viability: the transfection cytotoxicity index expressed as POC (percent of control) of "Neg" against "UT".

Viability_i =
$$\frac{\bar{x}_{\text{Neg}_i}}{\bar{x}_{\text{UT}}} \times 100$$
 (*i*: conditions)

• Efficiency: the transfection efficiency expressed as 100-POC of "Pos" against "Neg".

Efficiency_i =
$$\left(1 - \frac{\bar{x}_{Pos_i}}{\bar{x}_{Neg_i}}\right) \times 100$$
 (*i*: conditions)

- Selection: the flags transfection conditions which exceed both of the above criteria.
- **j.** The threshold values for both criteria together with the number of the conditions selected using those criteria. The threshold values can be changed using these boxes.
- **k.** The list of the selected conditions. As each threshold value is changed, this list will be updated automatically.
- I. The scatter plot for all conditions. The red horizontal/vertical lines represent the threshold values and will be adjusted when the threshold value is changed. The selected conditions shown the table k are located at the top-right of the scatter plot.