

Appendix 3

Statistical report

Statistical Analysis Report

19 November 2021

Takashi Sozu PhD

(1) Phase 1A / 5 Jul 2019

- Results of positive control
- Results of each chemical

(2) Phase 1A Reflecting the protocol amendment / 9 March 2020

- Results of positive control
- Results of each chemical

(3) Phase 1B / 14 Mar 2020

- Results of positive control
- Results of each chemical

(4) Phase 1C / 17 Sep 2020

- Results of positive control
- Results of each chemical

(5) Phase II / 27 May 2021

- Positive control
- Test chemicals
- Positive or negative judgement

EpiSensA phase I-A Validation

Statistical Analysis Report

(No additional data)

5 July 2019 (6 February 2020 updated)

(1) Results of positive control

Lion

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
4	68.4	1.0	2.4	18.4	100.5	91.7	7.8	8.7	4.5	96.5
5	17.1	0.8	1.3	6.7	103.2	69.7	4.9	6.1	4.0	98.0
6	61.6	1.2	3.2	39.0	101.8	45.5	7.8	8.2	4.1	90.6
7	7.4	0.6	1.4	7.1	105.5	17.8	3.2	3.8	1.3	102.7
8	80.5	1.1	4.1	40.9	99.6	48.9	5.5	6.9	3.5	97.1
10	33.5	0.8	1.8	9.5	101.5	56.0	4.3	4.9	1.5	100.3
11	17.9	1.3	1.9	12.7	102.3	22.2	5.6	6.5	2.0	95.8
12	23.9	1.0	5.8	19.0	98.2	8.4	4.1	5.1	1.0	97.4
14	13.9	1.0	1.4	4.4	101.5	16.9	6.0	6.9	1.6	95.6
15	19.0	0.9	2.7	13.6	109.3	4.5	4.8	4.5	1.8	106.0
16	41.1	1.1	2.4	13.0	98.8	11.2	4.7	5.3	1.7	94.7

KOSE

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
2	97.1	0.9	3.0	39.1	100.4	22.0	3.3	4.8	1.6	97.7
3	68.2	0.9	2.2	25.6	100.4	33.7	4.3	6.3	1.9	97.8
5	59.0	1.0	2.4	21.0	99.6	33.4	5.8	8.7	2.7	97.7
7	33.5	0.8	1.5	19.4	104.0	27.3	5.2	5.8	3.8	99.3
8	60.4	1.0	2.8	30.9	99.4	25.4	5.2	8.1	2.9	96.9
10	56.0	1.1	2.0	17.9	100.5	37.9	5.1	7.5	3.1	98.4
11	72.2	0.8	2.1	26.0	100.4	24.1	3.9	6.3	2.4	97.4
12	37.1	1.0	1.5	15.8	99.2	25.6	4.2	5.0	2.4	97.4
14	79.0	0.9	1.8	42.6	101.2	38.2	3.8	4.6	3.7	98.2

FDSC

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
2	73.7	0.8	4.7	22.2	102.9	10.5	4.3	6.9	1.4	99.4
3	4.7	0.6	1.1	4.1	98.4	10.2	2.9	4.4	3.0	99.9
4	75.2	0.7	2.7	29.2	100.3	50.2	5.3	9.9	2.5	96.6
6	84.8	0.9	4.3	34.9	100.0	19.1	5.3	6.2	2.7	97.2
8	85.5	0.8	3.2	25.5	100.2	24.9	3.0	5.3	2.1	98.9
9	128.6	1.0	4.5	29.7	100.2	41.4	4.8	6.4	2.3	98.5
10	23.9	*	2.8	14.7	96.6	8.0	2.9	2.9	0.8	96.8

* Three observations (n=3) are not obtained (i.e., one data is missing).

(2) Results of each chemical

(2-1) Summary

Lab A

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	1	36.9	99.2	5.7	99.2	2.3	99.2	13.2	99.2	1
	2	1.3	103.5	0.8	103.5	0.8	103.5	1.2	103.5	0
	3	2.0	102.7	1.0	104.7	0.9	102.7	1.1	102.7	0
	4	10.4	100.8	1.2	90.2	1.3	100.8	4.4	100.8	1
	5	63.7	116.3	1.3	98.4	1.5	116.3	9.7	116.3	1
2	1	60.0	91.1	9.8	91.1	4.2	91.1	16.5	91.1	1
	2	2.1	99.5	0.6	98.7	0.6	99.5	0.9	98.7	0
	3	12.2	96.3	1.4	96.3	1.3	96.3	1.0	96.3	0
	4	100.9	89.9	0.9	89.9	2.4	89.9	9.9	89.9	1
	5	43.2	100.5	1.0	92.5	1.7	100.5	5.9	100.5	1
3	1	18.8	91.4	4.3	91.4	2.8	91.4	6.2	86.7	1
	2	1.1	98.4	0.8	98.5	0.8	98.4	0.9	98.4	0
	3	2.5	96.0	1.3	96.0	1.0	96.0	0.5	96.0	0
	4	65.8	89.1	1.2	89.1	3.8	89.1	16.9	89.1	1
	5	25.5	104.4	1.2	97.8	1.6	104.4	7.4	104.4	1

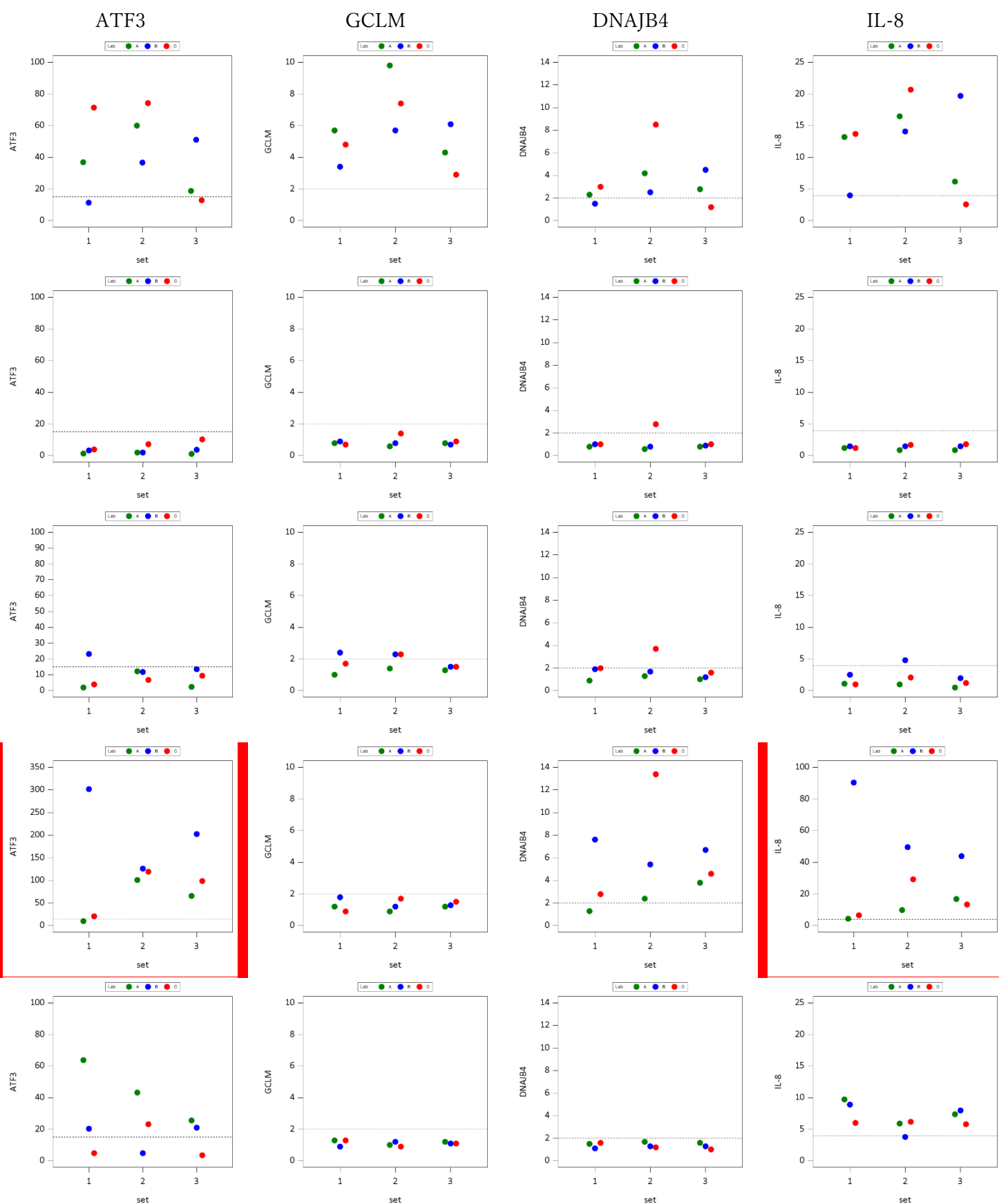
Lab B

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	1	11.3	105.5	3.4	105.5	1.5	105.5	4.0	105.5	1
	2	3.4	96.6	0.9	100.4	1.0	100.4	1.5	100.4	0
	3	23.1	85.1	2.4	85.1	1.9	85.1	2.5	85.1	1
	4	302.0	81.8	1.8	81.8	7.6	81.8	90.4	81.8	1
	5	20.3	92.8	0.9	82.4	1.1	92.8	8.9	82.4	1
2	1	36.6	101.4	5.7	101.4	2.5	101.4	14.1	101.4	1
	2	2.1	100.6	0.8	104.3	0.8	104.7	1.5	104.3	0
	3	11.9	86.3	2.3	86.3	1.7	86.3	4.8	86.3	1
	4	126.1	89.6	1.2	89.6	5.4	89.6	49.6	89.6	1
	5	4.9	97.5	1.2	87.2	1.3	97.5	3.8	87.2	0
3	1	51.0	97.8	6.1	97.8	4.5	97.8	19.7	97.8	1
	2	3.8	96.1	0.7	100.7	0.9	96.1	1.5	96.1	0
	3	13.5	84.6	1.5	84.6	1.2	84.6	2.0	92.3	0
	4	202.8	87.5	1.3	87.5	6.7	87.5	44.0	87.5	1
	5	21.0	81.8	1.1	88.8	1.3	81.8	8.0	81.8	1

Lab C

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	1	71.5	96.6	4.8	96.6	3.0	96.6	13.7	96.6	1
	2	3.9	97.4	0.7	103.7	1.0	103.7	1.2	97.4	0
	3	4.0	91.9	1.7	91.9	2.0	91.9	1.0	91.9	1
	4	20.4	95.8	0.9	94.4	2.8	95.8	6.5	95.8	1
	5	4.9	85.0	1.3	85.0	1.6	85.0	6.0	85.0	1
2	1	74.2	97.2	7.4	97.2	8.5	97.2	20.7	97.2	1
	2	7.2	96.4	1.4	98.6	2.8	96.4	1.7	98.6	1
	3	6.9	91.1	2.3	91.1	3.7	91.1	2.1	91.1	1
	4	119.0	84.3	1.7	84.3	13.4	84.3	29.3	84.3	1
	5	23.2	85.7	0.9	89.3	1.2	85.7	6.2	85.7	1
3	1	13.0	100.8	2.9	99.7	1.2	100.8	2.6	100.8	1
	2	10.3	97.9	0.9	97.9	1.0	97.9	1.8	97.9	0
	3	9.4	97.4	1.5	97.4	1.6	97.4	1.2	97.4	0
	4	98.6	86.5	1.5	99.2	4.6	86.5	13.3	86.5	1
	5	3.5	95.0	1.1	91.7	1.0	91.7	5.8	98.8	1

(2-2) Scatter plot of each chemical (Top figures are for chem No.1 and bottom for chem No.5)



Positive or negative judgement									
Chemical	Lab A			Lab B			Lan C		
No.	set 1	set 2	set 3	set 1	set 2	set 3	set 1	set 2	set 3
1	P	P	P	P	P	P	P	P	P
2	N	N	N	N	N	N	N	P	N
3	N	N	N	P	P	N	P	P	N
4	P	P	P	P	P	P	P	P	P
5	P	P	P	P	N	P	P	P	P

EpiSensA phase I-A Validation
Statistical Analysis Report (Reflecting the protocol amendment)
9 March 2020

(i) Each cell viability of at least two epidermises of vehicle control should be equal to or greater than 95%. (If the viability of only one epidermis is less than 95%, Ct values from the remaining two epidermises should be used.)

(ii) In rare cases, there are some test chemicals that show steeply or greatly fluctuating dose response curves for cell viability and/or fold induction, and the fold induction exceeds the cut-off value just at the lowest concentration with less than 80% mean cell viability. Such test chemicals should be retested with a narrower dose-response analysis using a lower dilution factor (e.g. $\sqrt{2}$ (=1.41) fold dilution), to determine whether induction has occurred at cytotoxic levels (80 to 95% mean cell viability).

(iii) When mean GAPDH Ct value of each tested concentration (n=3) is within mean GAPDH Ct value of corresponding vehicle control (n=3) +/- 1, the result at the concentration can be acceptable. If the GAPDH Ct value does not meet the acceptance criteria at the highest concentration with equal to or greater than 80% mean cell viability and the fold induction does not exceed respective cut-off values at the lower concentrations, the test chemical should be retested.

(1) Results of positive control

Lion

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJB4	IL8	%
4	68.4	1.0	2.4	18.4	100.5	91.7	7.8	8.7	4.5	96.5
5	17.1	0.8	1.3	6.7	103.2	69.7	4.9	6.1	4.0	98.0
6	61.6	1.2	3.2	39.0	101.8	45.5	7.8	8.2	4.1	90.6
7	7.4	0.6	1.4	7.1	105.5	17.8	3.2	3.8	1.3	102.7
8	80.5	1.1	4.1	40.9	99.6	48.9	5.5	6.9	3.5	97.1
10	33.5	0.8	1.8	9.5	101.5	56.0	4.3	4.9	1.5	100.3
11	36.2	1.3	1.8	16.4	102.3	44.8	5.9	6.3	2.6	95.8
12	39.7	1.1	6.1	24.3	98.2	14.0	4.4	5.4	1.3	97.4
14	13.9	1.0	1.4	4.4	101.5	16.9	6.0	6.9	1.6	95.6
15	19.0	0.9	2.7	13.6	109.3	4.5	4.8	4.5	1.8	106.0
16	41.1	1.1	2.4	13.0	98.8	11.2	4.7	5.3	1.7	94.7
19	26.2	1.1	1.6	12.8	97.7	57.0	8.5	13.8	3.3	97.4
20	40.0	1.2	2.5	19.7	99.9	42.0	8.3	11.1	2.5	97.8
21	55.3	1.1	3.0	16.1	98.5	48.8	6.9	9.5	2.8	96.4

KOSE

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
2	97.1	0.9	3.0	39.1	100.4	22.0	3.3	4.8	1.6	97.7
3	68.2	0.9	2.2	25.6	100.4	33.7	4.3	6.3	1.9	97.8
5	59.0	1.0	2.4	21.0	99.6	33.4	5.8	8.7	2.7	97.7
7	33.5	0.8	1.5	19.4	104.0	27.3	5.2	5.8	3.8	99.3
8	60.4	1.0	2.8	30.9	99.4	25.4	5.2	8.1	2.9	96.9
10	56.0	1.1	2.0	17.9	100.5	37.9	5.1	7.5	3.1	98.4
11	72.2	0.8	2.1	26.0	100.4	24.1	3.9	6.3	2.4	97.4
12	46.8	1.0	1.6	14.6	99.2	32.2	4.3	5.3	2.2	97.4
14	79.0	0.9	1.8	42.6	101.2	38.2	3.8	4.6	3.7	98.2

FDSC

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
2	73.7	0.8	4.7	22.2	102.9	10.5	4.3	6.9	1.4	99.4
3	4.7	0.6	1.1	4.1	98.4	10.2	2.9	4.4	3.0	99.9
4	75.2	0.7	2.7	29.2	100.3	50.2	5.3	9.9	2.5	96.6
6	84.8	0.9	4.3	34.9	100.0	19.1	5.3	6.2	2.7	97.2
8	85.5	0.8	3.2	25.5	100.2	24.9	3.0	5.3	2.1	98.9
9	128.6	1.0	4.5	29.7	100.2	41.4	4.8	6.4	2.3	98.5
11	38.6	2.8	0.9	13.9	98.8	51.2	14.4	8.4	2.0	95.4

(2) Results of each chemical

(2-1) Summary

Lab A

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	1	36.9	99.2	5.7	99.2	2.3	99.2	13.2	99.2	1
	2	1.3	103.5	0.8	103.5	0.8	103.5	1.2	103.5	0
	3	10.9	85.1	2.1	85.1	2.0	85.1	1.6	85.1	1
	4	10.4	100.8	1.2	90.2	1.3	100.8	4.4	100.8	1
	5	63.7	116.3	1.3	98.4	1.5	116.3	9.7	116.3	1
2	1	60.0	91.1	9.8	91.1	4.2	91.1	16.5	91.1	1
	2	2.1	99.5	0.6	98.7	0.6	99.5	0.9	98.7	0
	3	7.0	92.2	1.7	92.2	1.9	92.2	1.0	92.2	0
	4	100.9	89.9	0.9	89.9	2.4	89.9	9.9	89.9	1
	5	43.2	100.5	1.0	92.5	1.7	100.5	5.9	100.5	1
3	1	18.8	91.4	4.3	91.4	2.8	91.4	6.2	86.7	1
	2	1.1	98.4	0.8	98.5	0.8	98.4	0.9	98.4	0
	3	14.0	94.9	1.5	94.9	1.7	94.9	1.4	94.9	0
	4	65.8	89.1	1.2	89.1	3.8	89.1	16.9	89.1	1
	5	25.5	104.4	1.2	97.8	1.6	104.4	7.4	104.4	1

Lab B

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	1	11.3	105.5	3.4	105.5	1.5	105.5	4.0	105.5	1
	2	3.4	96.6	0.9	100.4	1.0	100.4	1.5	100.4	0
	3	23.1	85.1	2.4	85.1	1.9	85.1	2.5	85.1	1
	4	302.0	81.8	1.8	81.8	7.6	81.8	90.4	81.8	1
	5	20.3	92.8	0.9	82.4	1.1	92.8	8.9	82.4	1
2	1	36.6	101.4	5.7	101.4	2.5	101.4	14.1	101.4	1
	2	2.1	100.6	0.8	104.3	0.8	104.7	1.5	104.3	0
	3	11.9	86.3	2.3	86.3	1.7	86.3	4.8	86.3	1
	4	126.1	89.6	1.2	89.6	5.4	89.6	49.6	89.6	1
	5	15.5	82.5	1.0	96.3	1.2	82.5	4.9	82.5	1
3	1	51.0	97.8	6.1	97.8	4.5	97.8	19.7	97.8	1
	2	3.8	96.1	0.7	100.7	0.9	96.1	1.5	96.1	0
	3	17.0	84.6	1.6	84.6	1.3	84.6	1.8	92.3	1
	4	202.8	87.5	1.3	87.5	6.7	87.5	44.0	87.5	1
	5	21.0	81.8	1.1	88.8	1.3	81.8	8.0	81.8	1

Lab C

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		I _{max}	%	I _{max}	%	I _{max}	%	I _{max}	%	
1	1	71.5	96.6	4.8	96.6	3.0	96.6	13.7	96.6	1
	2	3.9	97.4	0.7	103.7	1.0	103.7	1.2	97.4	0
	3	4.0	91.9	1.7	91.9	2.0	91.9	1.0	91.9	1
	4	20.4	95.8	0.9	94.4	2.8	95.8	6.5	95.8	1
	5	4.9	85.0	1.3	85.0	1.6	85.0	6.0	85.0	1
2	1	74.2	97.2	7.4	97.2	8.5	97.2	20.7	97.2	1
	2	7.2	96.4	1.4	98.6	2.8	96.4	1.7	98.6	1
	3	6.9	91.1	2.3	91.1	3.7	91.1	2.1	91.1	1
	4	119.0	84.3	1.7	84.3	13.4	84.3	29.3	84.3	1
	5	23.2	85.7	0.9	89.3	1.2	85.7	6.2	85.7	1
3	1	13.0	100.8	2.9	99.7	1.2	100.8	2.6	100.8	1
	2	10.3	97.9	0.9	97.9	1.0	97.9	1.8	97.9	0
	3	9.7	83.6	1.9	95.6	2.4	83.6	1.4	83.6	1
	4	98.6	86.5	1.5	99.2	4.6	86.5	13.3	86.5	1
	5	3.5	95.0	1.1	91.7	1.0	91.7	5.8	98.8	1

Positive or negative judgement									
Chemical	Lab A			Lab B			Lan C		
No.	set 1	set 2	set 3	set 1	set 2	set 3	set 1	set 2	set 3
1	P	P	P	P	P	P	P	P	P
2	N	N	N	N	N	N	N	P	N
3	P	N	N	P	P	P	P	P	P
4	P	P	P	P	P	P	P	P	P
5	P	P	P	P	P	P	P	P	P

EpiSensA phase I-B Validation

Statistical Analysis Report

14 Mar 2020

(1) Results of positive control

Lion

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
26	28.4	1.0	2.3	12.5	99.2	38.5	8.9	11.7	6.0	90.3
27	18.5	0.9	1.8	14.5	98.0	41.0	6.2	12.2	5.9	90.1
29	35.2	1.1	1.6	18.9	95.5	86.5	6.4	10.8	4.4	96.3
32	18.2	0.7	1.4	8.5	99.5	73.9	13.6	17.5	8.6	98.2
33	35.1	1.1	1.5	14.5	99.7	15.5	3.6	4.7	3.2	97.2

KOSE

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
16	149.8	1.0	4.1	59.5	95.2	82.7	4.3	5.7	8.5	95.6
17	53.7	1.1	2.2	34.3	100.7	32.6	2.7	4.0	4.0	93.9
19	31.7	1.0	1.4	11.7	101.4	39.7	8.1	10.0	4.4	97.5
20	41.5	1.1	2.1	21.0	101.1	35.8	5.1	7.3	4.4	97.1
22	61.3	1.0	3.6	29.2	99.1	45.3	5.5	7.4	2.8	94.6
23	26.0	1.1	1.6	23.3	100.3	22.9	4.0	5.5	3.4	92.1

FDSC

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
3	252.6	1.0	11.0	69.5	91.0	100.3	8.4	18.1	6.7	93.3
4	147.4	1.0	4.8	52.4	94.1	216.9	9.4	20.5	5.8	91.5
6-1	156.7	0.9	9.4	45.8	87.8	48.9	7.7	9.7	4.6	87.4
6-2	179.9	1.3	12.0	57.4	87.8	59.6	12.6	14.9	4.8	87.4
8-1	241.3	1.1	12.6	74.0	95.5	56.1	6.5	10.9	3.2	96.8
8-2	306.5	1.5	14.7	77.6	95.5	60.8	8.4	10.2	3.4	96.8

(2) Results of each chemical

(2-1) Summary

Lab A

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	6	1.6	95.9	0.7	97.4	1.1	95.9	1.5	95.9	0
	7	1.0	99.0	0.8	94.1	1.2	99.4	1.1	94.1	0
	8	1.9	94.4	0.7	94.4	0.9	94.4	1.3	94.4	0
	9	48.1	89.6	23.0	94.5	50.2	94.5	3.3	86.1	1
	10	63.1	88.9	11.2	96.7	10.0	83.5	5.7	88.9	1
2	6	1.9	92.0	1.2	92.0	1.2	89.2	2.2	82.7	0
	7	0.9	101.2	0.8	101.2	0.8	101.2	1.0	101.7	0
	8	5.3	98.2	0.9	101.9	1.1	101.9	1.6	98.2	0
	9	43.8	91.9	35.4	88.0	44.4	91.9	2.7	88.0	1
	10	133.2	96.6	12.6	100.2	10.6	100.2	5.9	96.6	1
3	6	1.4	92.5	1.8	92.5	1.3	92.5	1.0	92.5	0
	7	1.0	99.6	0.6	99.6	0.6	99.6	1.0	99.6	0
	8	3.0	93.9	0.8	93.8	0.8	93.8	1.1	93.8	0
	9	48.5	86.3	41.8	90.4	32.1	90.4	2.3	90.4	1
	10	30.4	86.5	8.2	86.5	6.2	86.5	2.9	86.5	1

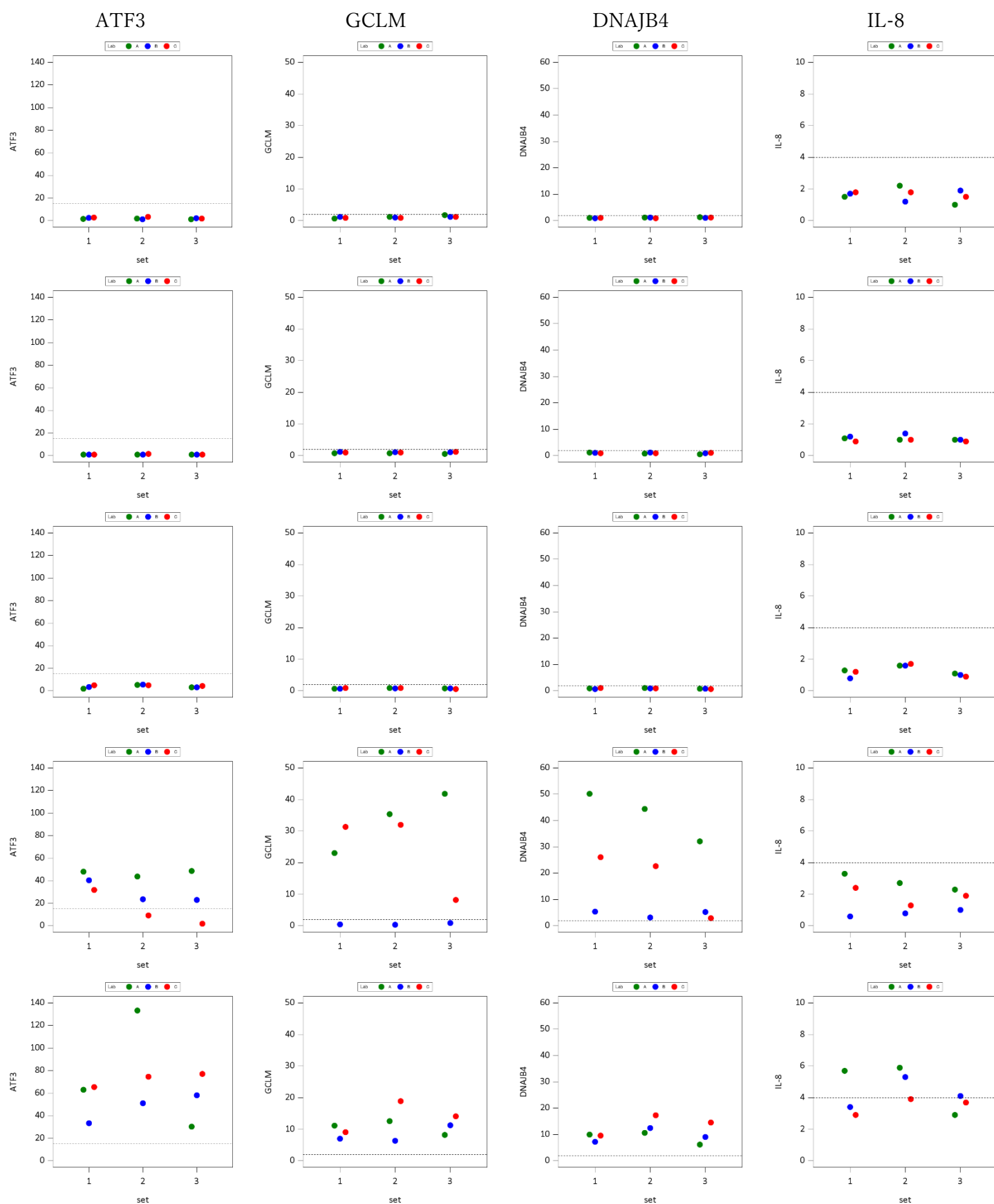
Lab B

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	6	2.4	91.6	1.2	91.6	1.0	91.6	1.7	91.6	0
	7	1.1	102.7	1.2	101.7	1.1	101.7	1.2	102.7	0
	8	3.3	96.6	0.7	101.0	0.7	101.0	0.8	100.9	0
	9	40.3	88.5	0.5	88.5	5.4	88.5	0.6	88.5	1
	10	33.4	91.4	7.0	98.6	7.2	98.6	3.4	98.6	1
2	6	1.4	101.0	1.0	101.0	1.2	101.0	1.2	101.0	0
	7	1.0	103.6	1.1	103.3	1.2	103.6	1.4	103.6	0
	8	5.6	98.9	0.8	101.9	0.9	101.9	1.6	98.9	0
	9	23.6	88.7	0.4	90.4	3.2	88.7	0.8	90.4	1
	10	51.1	96.3	6.4	96.3	12.4	85.9	5.3	85.9	1
3	6	2.2	97.3	1.2	97.3	1.1	97.3	1.9	93.2	0
	7	1.0	100.5	1.1	100.6	0.9	100.6	1.0	100.6	0
	8	3.0	99.3	0.8	101.5	0.8	101.5	1.0	99.3	0
	9	23.0	91.8	0.9	91.8	5.2	91.8	1.0	91.8	1
	10	58.1	91.0	11.3	99.2	9.0	81.7	4.1	91.0	1

Lab C

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P
		I _{max}	%	I _{max}	%	I _{max}	%	I _{max}	%	0: N
1	6	2.8	93.5	0.9	94.4	1.1	94.4	1.8	86.9	0
	7	1.1	99.6	1.0	99.7	1.0	100.2	0.9	99.7	0
	8	5.1	98.6	0.9	97.7	1.1	97.0	1.2	97.7	0
	9	31.7	81.6	31.3	81.6	26.1	81.6	2.4	80.1	1
	10	65.5	95.7	9.1	95.7	9.6	83.1	2.9	95.7	1
2	6	3.4	82.8	0.9	82.8	1.0	95.5	1.8	82.8	0
	7	1.5	96.8	1.0	100.6	1.0	100.4	1.0	96.8	0
	8	4.8	97.4	0.9	98.0	1.0	98.0	1.7	97.4	0
	9	9.1	85.9	32.0	85.9	22.7	85.9	1.3	85.9	1
	10	74.7	89.9	18.9	89.9	17.3	89.9	3.9	89.9	1
3	6	1.9	93.5	1.2	93.5	1.2	97.5	1.5	94.9	0
	7	1.1	99.8	1.2	100.2	1.1	100.2	0.9	99.8	0
	8	4.2	91.0	0.6	97.5	0.7	97.5	0.9	91.0	0
	9	2.0	90.6	8.2	90.6	2.9	90.6	1.9	90.6	1
	10	76.9	96.7	14.1	96.7	14.6	96.7	3.7	96.7	1

(2-2) Scatter plot of each chemical (Top figures are for chem No.6 and bottom for chem No.10)



Positive or negative judgement									
Chemical	Lab A			Lab B			Lab C		
No.	set 1	set 2	set 3	set 1	set 2	set 3	set 1	set 2	set 3
6	N	N	N	N	N	N	N	N	N
7	N	N	N	N	N	N	N	N	N
8	N	N	N	N	N	N	N	N	N
9	P	P	P	P	P	P	P	P	P
10	P	P	P	P	P	P	P	P	P

EpiSensA phase I-C Validation
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17 Sep 2020

(1) Results of positive control

Lion

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
40	35.0	1.2	1.7	28.4	100.0	24.0	6.4	7.5	6.0	98.4
41	64.5	1.1	3.6	46.3	94.7	31.1	9.2	11.7	6.8	94.6
44	36.4	1.1	3.0	23.8	98.7	15.6	1.6	3.1	2.9	93.2
45	26.9	0.4	1.5	16.3	95.7	16.3	0.6	1.8	3.1	91.4
47	67.1	0.9	3.7	42.9	94.0	25.3	4.1	9.2	5.0	96.5
48	49.9	1.0	2.1	57.0	99.5	19.0	3.3	5.2	5.9	97.1
49	29.9	1.0	2.9	15.3	89.3	15.0	3.7	5.9	2.2	97.2
51	22.2	0.9	1.4	36.2	99.1	15.6	4.4	7.4	4.5	95.4
52	26.3	0.9	1.5	18.4	98.9	15.0	6.8	8.1	5.3	96.2
53	31.8	1.3	3.9	30.8	100.8	7.5	3.3	6.9	2.7	92.0
54	30.4	1.0	2.4	19.6	95.8	29.1	9.4	14.0	10.8	96.9

KOSE

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
25	71.9	1.1	3.3	42.9	100.1	35.1	5.5	8.4	5.5	94.5
26	28.8	0.8	1.7	27.8	101.1	24.8	4.7	6.1	4.3	98.3
27	60.4	1.1	3.5	34.2	100.0	106.7	14.3	17.9	20.2	98.1
29	19.2	0.8	1.7	44.0	99.0	20.5	5.2	7.8	7.3	96.0
30	45.4	0.8	3.4	66.7	96.3	22.0	5.3	9.1	3.8	92.9
31	112.1	1.4	4.5	109.9	97.5	21.0	2.1	4.1	5.4	91.8
33	24.4	0.8	1.9	26.6	99.5	23.1	5.4	8.5	5.4	95.3
34	22.4	0.9	1.5	26.4	101.9	14.6	3.8	5.2	5.6	97.6

FDSC

Test No.	Clotrimazole					4NBB				
	ATF3	GC LM	DNA JB4	IL8	%	ATF3	GCLM	DNAJ B4	IL8	%
2	149.0	0.9	14.2	63.2	89.4	48.6	16.6	22.4	5.2	87.2
4-1	123.1	1.2	11.7	117.7	97.6	49.9	8.1	15.0	4.0	97.8
4-2	53.9	1.3	7.1	55.3	97.6	25.3	7.5	11.7	2.1	97.8
6	88.5	1.0	4.9	48.6	99.9	79.7	20.2	25.9	5.0	99.1

(2) Results of each chemical

(2-1) Summary

Lab A

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	11	1.8	100.6	1.5	94.3	1.1	100.6	1.6	89.4	0
	12	2.4	86.0	12.4	86.0	4.7	86.0	0.8	86.0	1
	13	113.9	99.1	73.0	102.3	83.8	99.1	30.1	99.1	1
	14	76.4	96.9	4.1	96.9	2.9	96.9	59.7	96.9	1
	15	273.4	81.4	1.0	81.1	3.6	81.4	231.2	81.1	1
2	11	1.9	95.6	1.1	97.0	0.9	102.4	2.6	84.5	0
	12	16.0	86.6	13.1	86.6	4.9	86.6	3.5	86.6	1
	13	177.3	88.9	21.4	95.4	61.1	98.2	43.0	98.2	1
	14	101.8	86.9	3.3	96.5	3.4	86.9	39.4	96.5	1
	15	276.8	86.4	1.1	95.4	3.3	86.4	170.5	90.0	1
3	11	1.4	85.7	1.1	85.7	0.9	85.7	1.5	85.7	0
	12	2.6	85.2	11.1	85.2	4.6	85.2	1.1	93.8	1
	13	194.0	93.3	9.5	94.0	57.8	94.0	74.4	94.0	1
	14	74.0	84.3	2.9	96.1	3.8	80.9	59.4	96.1	1
	15	48.4	81.2	0.8	96.2	2.9	83.7	90.4	81.2	1

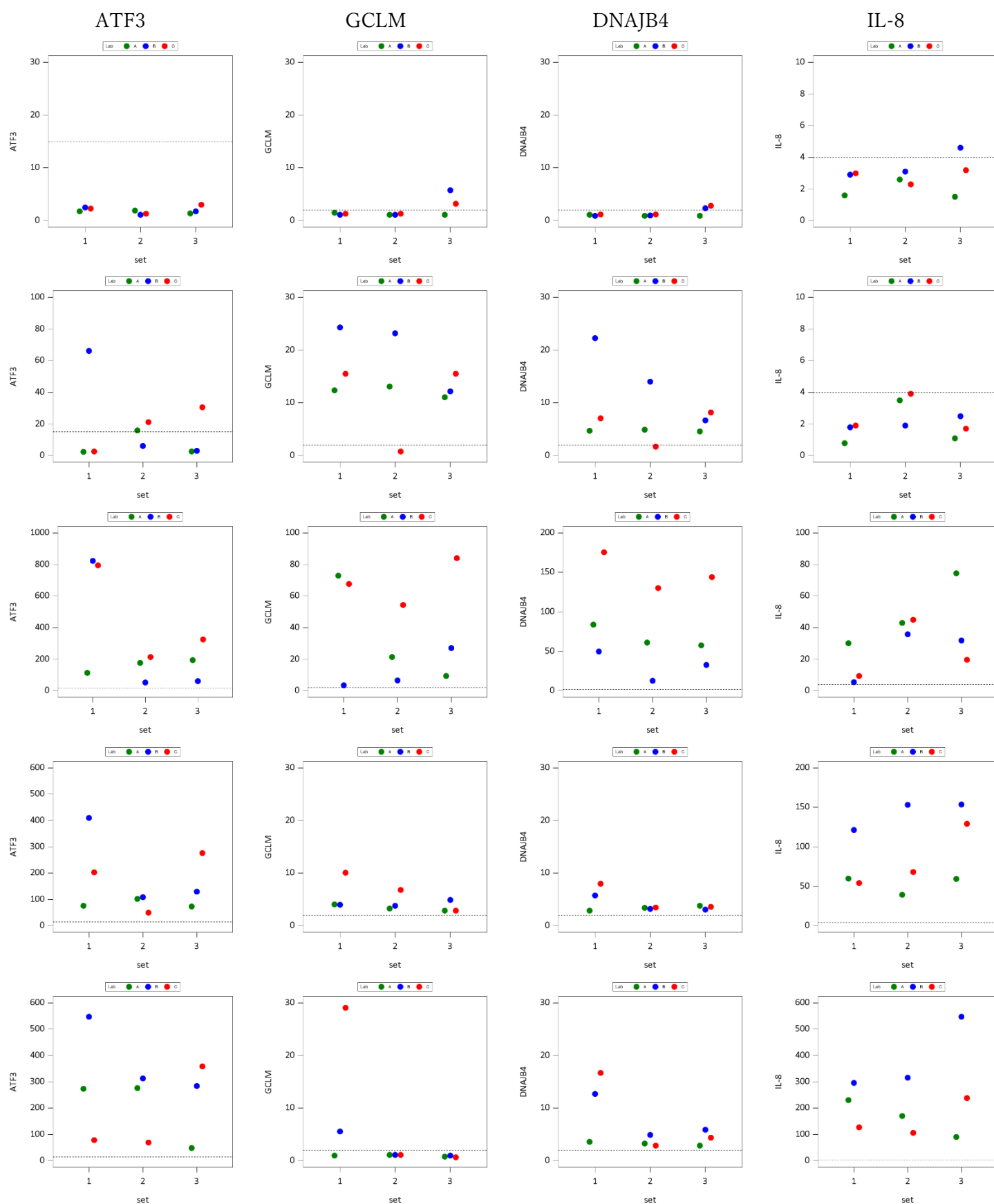
Lab B

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	11	2.5	89.1	1.1	89.1	0.9	104.6	2.9	89.1	0
	12	66.1	82.9	24.3	82.9	22.3	82.9	1.8	82.9	1
	13	823.0	83.5	3.5	83.5	49.7	83.5	5.5	83.5	1
	14	410.0	86.7	4.0	86.7	5.8	86.7	121.6	86.7	1
	15	548.0	80.7	5.6	92.6	12.7	80.7	296.3	85.5	1
2	11	1.1	88.8	1.1	88.8	1.0	88.8	3.1	88.8	0
	12	6.1	86.4	23.2	86.4	14.0	86.4	1.9	86.4	1
	13	53.5	95.3	6.5	98.2	12.8	95.3	35.9	95.3	1
	14	109.1	84.3	3.8	84.3	3.2	84.3	153.3	84.3	1
	15	313.5	84.8	1.1	86.7	4.9	84.8	315.4	84.8	1
3	11	1.8	85.8	5.8	85.8	2.4	85.8	4.6	85.8	1
	12	3.1	87.4	12.2	87.4	6.7	87.4	2.5	87.4	1
	13	62.6	96.6	27.1	96.6	33.0	96.6	31.8	96.6	1
	14	129.3	96.1	4.9	96.1	3.1	96.1	153.9	96.1	1
	15	284.4	82.8	1.0	82.8	5.9	82.8	547.9	82.8	1

Lab C

Set	Chem No.	ATF3		GCLM		DNAJB4		IL8		1: P 0: N
		Imax	%	Imax	%	Imax	%	Imax	%	
1	11	2.3	106.1	1.3	105.1	1.2	106.1	3.0	106.1	0
	12	2.7	91.6	15.5	91.6	7.1	91.6	1.9	91.6	1
	13	795.1	87.7	67.7	96.9	175.7	96.9	9.5	87.7	1
	14	202.9	80.5	10.1	88.5	8.0	88.5	54.4	80.5	1
	15	78.6	83.2	29.1	99.9	16.7	99.9	126.8	83.2	1
2	11	1.3	94.8	1.3	94.8	1.2	94.8	2.3	94.8	0
	12	21.3	83.2	0.8	91.1	1.7	91.1	3.9	91.1	1
	13	214.8	94.9	54.4	92.7	130.0	94.9	45.1	94.9	1
	14	50.0	92.3	6.8	92.3	3.5	92.3	68.0	92.3	1
	15	69.1	87.4	1.1	97.6	2.9	87.4	105.9	87.4	1
3	11	3.0	90.5	3.2	90.5	2.8	90.5	3.2	90.5	1
	12	30.5	87.7	15.5	87.7	8.2	87.7	1.7	92.4	1
	13	326.2	89.7	84.0	99.6	143.9	89.7	19.7	89.7	1
	14	276.4	83.5	2.9	83.5	3.6	83.5	129.1	83.5	1
	15	358.8	84.6	0.7	84.4	4.4	84.6	238.7	84.6	1

(2-2) Scatter plot of each chemical (Top figures are for chem No.11 and bottom for chem No.15)



Positive or negative judgement									
Chemical	Lab A			Lab B			Lan C		
No.	set 1	set 2	set 3	set 1	set 2	set 3	set 1	set 2	set 3
11	N	N	N	N	N	P	N	N	P
12	P	P	P	P	P	P	P	P	P
13	P	P	P	P	P	P	P	P	P
14	P	P	P	P	P	P	P	P	P
15	P	P	P	P	P	P	P	P	P

EpiSensA phase II Validation Statistical Analysis Report

27 May 2021

(1) Positive control

The red number represents the result of achieving the positive criteria.

Lion

	Clotrimazole					4NBB				
Test No.	ATF3	GCLM	DNAJB4	IL8	Viability (%)	ATF3	GCLM	DNAJB4	IL8	Viability (%)
59	29.2	1.0	1.4	23.8	104.7	16.1	3.7	6.8	4.1	103.5
61	10.3	2.9	4.1	9.0	99.3	5.8	4.8	7.2	2.6	99.1
62	28.9	1.0	2.5	20.5	103.7	11.0	5.6	8.5	3.1	98.0
63	4.4	0.7	1.6	5.0	100.6	5.2	4.8	6.7	1.8	92.2
64	32.5	0.9	1.0	35.9	100.6	19.8	5.4	10.3	5.2	97.1
65	29.3	1.0	2.0	23.9	99.9	14.8	3.6	4.8	1.6	96.0
67	47.3	0.9	2.3	43.9	99.5	16.9	4.8	6.1	4.7	95.0
69	11.3	0.9	3.3	14.5	96.4	1.8	3.1	4.4	0.7	91.7
70	22.5	0.8	2.4	12.4	97.5	12.6	3.9	7.4	1.4	96.8

KOSE

	Clotrimazole					4NBB				
Test No.	ATF3	GCLM	DNAJB4	IL8	Viability (%)	ATF3	GCLM	DNAJB4	IL8	Viability (%)
36	55.2	1.0	3.5	146.9	99.2	19.1	4.5	4.6	5.7	97.6
37	28.9	0.8	1.9	48.3	97.6	15.7	4.5	6.4	3.9	93.5
38	72.8	0.9	2.8	96.4	100.8	13.7	3.5	4.3	4.4	95.4
39	37.2	0.8	1.6	71.2	100.7	24.8	3.9	5.1	6.9	97.2
41	32.8	0.9	2.0	43.5	100.4	15.4	4.3	4.8	3.5	96.5
42	14.9	0.8	1.4	10.8	98.7	19.6	4.1	6.8	5.6	97.2
43	19.0	0.8	1.4	22.5	99.1	13.3	4.3	4.8	4.0	93.0
44	20.6	0.9	1.7	19.5	98.3	12.5	3.6	4.1	1.9	94.7

FDSC

	Clotrimazole					4NBB				
Test No.	ATF3	GCLM	DNAJB4	IL8	Viability (%)	ATF3	GCLM	DNAJB4	IL8	Viability (%)
2	170.4	1.0	8.3	238.5	99.0	222.4	10.4	26.8	22.5	95.0
3	97.5	0.8	3.4	71.4	98.7	43.7	4.0	8.1	3.5	97.0
4	54.2	0.7	2.2	85.4	98.2	55.7	7.6	13.8	13.7	87.1
6	147.6	0.7	5.8	168.9	98.7	98.0	8.1	22.8	15.9	96.7

(2) Test chemicals

Lion

			ATF3		GCLM		DNAJB4		IL-8	
Code No.	Set	Judge	Imax	Viability (%)	Imax	Viability (%)	Imax	Viability (%)	Imax	Viability (%)
ESE131	1	0	0.8	107.3	0.8	107.4	1.0	107.4	0.6	107.4
ESE132	1	1	27.9	92.2	0.8	101.0	1.3	101.0	51.7	92.2
ESE133	1	1	337.1	87.2	0.6	100.8	0.9	87.2	14.1	95.7
ESE134	1	1	26.9	81.2	1.1	103.0	1.4	104.7	20.7	81.2
ESE135	1	1	116.1	103.2	1.0	104.5	3.1	104.5	163.8	104.5
ESE136	5	1	3.0	88.4	2.7	92.5	1.4	92.5	1.7	88.4
ESE137	2	1	13.5	96.0	3.9	96.0	1.4	94.4	5.0	94.4
ESE138	1	1	0.7	100.5	2.1	100.5	1.8	94.7	1.6	94.7
ESE139	4	1	70.7	86.9	8.7	96.3	6.4	96.3	6.3	86.9
ESE140	1	1	43.7	93.5	1.2	93.5	2.2	93.5	18.5	93.5
ESE141	1	0	9.3	83.7	1.1	98.0	1.3	83.7	1.9	83.7
ESE142	4	1	36.8	108.6	9.8	108.6	5.1	108.6	11.0	108.6

KOSE

			ATF3		GCLM		DNAJB4		IL-8	
Code No.	Set	Judge	Imax	Viability (%)	Imax	Viability (%)	Imax	Viability (%)	Imax	Viability (%)
ESF231	3	1	16.0	93.0	1.7	93.0	2.1	93.0	7.5	93.0
ESF232	1	1	250.7	98.4	1.1	99.3	4.7	95.1	253.0	99.3
ESF233	1	1	1.1	91.7	3.0	91.7	2.1	91.7	1.1	91.7
ESF234	1	1	40.0	84.5	0.8	99.9	1.3	100.7	102.6	84.5
ESF235	2	1	1.4	91.7	8.4	91.7	4.4	91.7	1.0	91.7
ESF236	1	0	1.1	101.0	0.7	101.0	1.1	101.0	2.2	101.1
ESF237	1	1	1.9	95.2	6.0	95.2	3.1	95.2	1.2	95.2
ESF238	1	1	26.2	81.4	0.9	81.4	1.5	81.4	1.9	81.4
ESF239	2	0	8.0	94.6	1.2	101.0	1.6	101.0	2.9	94.6
ESF240	3	1	30.3	87.5	7.2	87.5	2.3	87.5	14.9	87.5
ESF241	1	1	413.5	82.5	0.5	95.1	0.9	82.5	41.4	82.5
ESF242	1	1	13.5	85.9	13.6	85.9	8.8	85.9	95.7	85.9

FDSC

			ATF3		GCLM		DNAJB4		IL-8	
Code No.	Set	Judge	Imax	Viability (%)	Imax	Viability (%)	Imax	Viability (%)	Imax	Viability (%)
ESG331	1	1	3.6	91.1	1.3	98.1	1.5	98.1	4.4	91.1
ESG332	2	1	2.3	101.0	7.3	101.0	3.8	101.0	1.3	98.6
ESG333	1	1	52.9	88.1	0.8	97.0	1.5	97.5	146.7	88.1
ESG334	1	1	2.1	95.1	4.3	99.2	2.1	94.4	1.8	95.1
ESG335	1	1	15.7	94.0	3.6	90.2	2.0	90.2	13.6	90.2
ESG336	1	1	177.5	97.3	1.3	96.4	5.2	96.4	265.5	97.3
ESG337	1	1	1.3	91.2	2.9	85.7	2.4	85.7	1.4	98.7
ESG338	1	1	532.0	85.6	0.4	97.0	0.6	85.6	41.5	85.5
ESG339	1	1	9.6	98.2	1.2	98.2	1.7	98.2	12.0	98.2
ESG340	1	1	3.9	93.9	7.3	93.9	5.9	93.9	21.0	93.9
ESG341	1	0	0.8	97.7	0.4	100.2	1.0	97.7	2.7	97.7
ESG342	1	1	21.7	81.1	1.0	101.1	1.8	81.1	1.7	81.1

(3)

Positive or negative judgement

Chemical No.	LLNA	Lion	KOSE	FDAC
1	N	N	P	P
2	N	P	N	P
3	N	N	N	N
4	P	P	P	P
5	P	P	P	P
6	P	P	P	P
7	P	P	P	P
8	P	P	P	P
9	P	P	P	P
10	P	P	P	P
11	P	P	P	P
12	P	P	P	P