

29.11.2020

Experiment report for ViruSafe Technologies (Tzahi Krieze)

Viral viability assay

Aim: Monitor the survival of Pseudo typed Lentivirus (Luciferase Reporter) CAT#79942-1 upon incubation in a chamber with ViruSafe Technologies apparatus.

Materials and Consumables

- Chamber 55*50*60 cm
- 9 Slides
- 66µL Spike (SARS-CoV-2) Pseudo typed Lentivirus (Luciferase Reporter) CAT#79942-1
- 66µL DMEM medium
- Luciferase reagent CAT#60690/1
- 2*96 well plate seeded with HEK 293 – ACE-2 cells
- 96 well plate
- 1-10 µL Tips
- 1-10 µL pipettor

Protocol:

- Add 10µL of mix Virus-Medium (1:1) on the slide 1-10; 13
- Add 10µL mix Virus-Medium (1:1) to 96 well plate (2 wells)
- Remove virus at appropriate time-point by washing with 20 µL medium and collect the washed virus in a new tube.

Experimental presses:

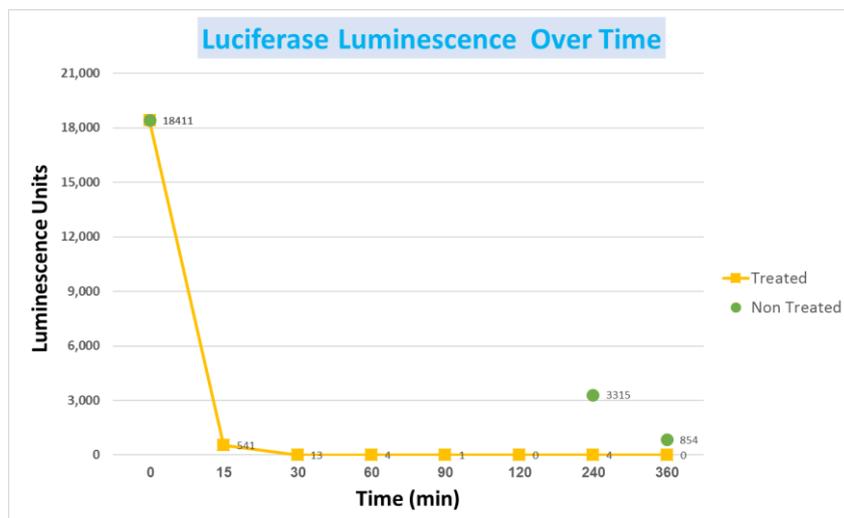
Num #	T=	Min/Hour	Amount	Comment	Well	Plate
1	30	min	10 μ L	Test	D2	1
2	60	min	10 μ L	Test	D3	1
3	90	min	10 μ L	Test	D4	1
4	2	Hour	10 μ L	Test	D5	1
5	4	Hour	10 μ L	Test	D6	1
6	6	Hour	10 μ L	Test	D7	1
7	4	Hour	10 μ L	Ctrl	D2	2
8	6	Hour	10 μ L	Ctrl	D3	2
9	15	min	10 μ L	Test	D1	1
10	6	Hour	10 μ L	Test	D8	1
11	2 -Plate	Hour	10 μ L	Test	D5	2
12	6- Plate	Hour	10 μ L	Test	D6	2
13	0	Min	10 μ L	Test/ Ctrl	D1	2

07.10.20:

- Mix 1:100 Luciferase reagent: lysis buffer (17 μ L:1700 μ L) – luciferase buffer.
- Mix 1:1 luciferase buffer: infected cell medium (100 μ L:100 μ L) and pipette a bit.
- Incubate 15 min at RT covered with aluminum foil on shaker.
- Transfer 170 μ L to Black 96 well plate.
- Read result at Plate Reader:

Mode	Luminescence	
Attenuation	NONE	
Integration Time	1000	ms
Settle Time	0	ms

Results:



Num #	T=	Min/Hour	Comment	Luminescence Units
1	30	min	Test	13
2	60	min	Test	1
3	90	min	Test	1
4	2	Hour	Test	0
5	4	Hour	Test	4
6	6	Hour	Test	0
7	4	Hour	Ctrl	3315
8	6	Hour	Ctrl	854
9	15	min	Test	541
10	6	Hour	Test	1
11	2 -Plate	Hour	Test	27
12	6- Plate	Hour	Test	3
13	0	Min	Test/ Ctrl	18411

ELISA reader program:

Application: Tecan i-control

Device: infinite 200Pro

Firmware: V_3.37_07/12_Infinite (Jul 20 2012/13.56.47)

Tecan i-control, 1.10.4.0

Serial number: 1306007910

MAI, V_3.37_07/12_Infinite (Jul 20 2012/13.56.47)

Summary:

The purpose of the experiment was to detect the Pseudo typed virus resistance upon incubation in a chamber with the "Air & Surfaces Sterilizer" apparatus.

Rational: as long as the virus is alive, it infects the host cell, hence higher luminescence is detected.

The results obtained were compared to a control samples which was not exposed to the "Air & Surfaces Sterilizer". Following exposure of Spike (SARS-CoV-2) Pseudo typed Lentivirus (Luciferase Reporter) CAT#79942-1 in a 55*50*60 cm chamber with the "Air & Surfaces Sterilizer", a reduction of 97% in live virus were detected after 15 min and reduction of 99.9% were detected following incubation of 30 min in virus viability. This was compered to a control sample, in which 18% of live virus were detected after 4h.

- Note: due to trouble with UV light, in the first 9 minutes of the experiment the apparatus was not operated, therefore time counting was restarted after 9 minutes following UV light has turned on.
- Due to collection failure the 2Hrs control sample was not collected, instead 4Hrs control sample was collected.