

UMR Inserm 1092

Anti-infectieux : supports moléculaires des résistances et innovations thérapeutiques

CBRS

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Limoges, Jan 5th, 2020

Evaluation of virucidal activity of non-porous surfaces against Human Coronavirus SARS-CoV2 according to the methodology of Standard ISO 21702, May 2019

Client:

PYLOTE SA, 22 avenue de la Mouyssaguese, 31280 Dremil Lafage

Test laboratory:

*Plate-forme C-Lim
Laboratoire RESINFIT UMR Inserm 1092, and
Virology Department/ UMR Inserm U1092,
CBRS (F Denis Biology and Research Center)
2 rue F Descottes 87000 Limoges France.*

Assay Manager:

Pr Sophie ALAIN, MD PhD

Ingeneer:

Mathis Courant

Promotor: Pylote

Period of assay: September to December 2020

I Material tested:

1) standard

Name "Non Treated"

Date of receipt: June 2020 and September 2020

Batch: 1

2) treated

Name "01 CSAFE01 XX"

Date of receipt: June 2020 (1) and September 2020 (2)

Batch: 1

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Accrédité COFRAC
CRB CRBioLim, certifié NF S96-900.

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II Virus:

Human SARS-CoV 2 strain BASA (Limoges)

Identification: specific PCR in the RdRp, N and E genes and full-length sequencing.

Passage: 4

Titer (TCID50): 6,9 10E6 infectious units (IU)/mL

Cells:

Vero cells (ATCC) Passages 6-18

Assay:

Inoculum: TCID50 in 400uL

Recovery volume: 10ml by gentle scraping and rinsing in a sterile Petri dish

Time exposure 0h, 60 min, 24h at 22°C +/- 1°C in a humid chamber

Viral growth:

Incubation: 34+/-0,5 °C under 5% CO2 atmosphere

Measurement: foci/plaques counting with an inverted microscope at Day 4 and Day 10,

Virus Titration: TCID50 (Wishak and Detre method) or 10-fold dilution method.

II Virus growth and recovery test in culture medium

Condition tested: culture medium (MEM Eagle with EARLE's salts and L glutamin (Eurobio), plus antibiotics, with 10% fetal calf serum (FCS))

Initial titer: 6,9 10E6 infectious units (IU)/mL

Non treated	Time of contact	viral titer/mL	Log infectious viral units per mL	% recovery
J+4	0h	2,21E+06	6,34	91,9%
J+10	0h	8,83E+06	6,95	>100%

Conclusion: Full viral recovery was obtained with this method

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III Virus inhibition test

Condition tested: SARS-CoV2 in culture medium (MEM Eagle with EARLE's salts and L glutamin, plus antibiotics, with 10% fetal calf serum (FCS))

Non treated	Time of exposure	infectious viral units per mL	log infectious viral units per mL	delta log 0h-T
J+4	0h	2,21E+06	6,34	-
	1h	1,39E+05	5,14	1,20
J+10	0h	8,83E+06	6,95	-
	1h	8,83E+06	6,95	-

Treated 01 CSAFE01 XX	Time of exposure	infectious viral units per mL	log infectious viral units per mL	delta log 0h-T	delta log (non treated- treated)
J+4	0h	3,38E+05	5,53		0,82
	1h	3,38E+05	5,53	-	0,38
J+10	0h	1,34E+06	6,13		0,82
	1h	3,38E+05	5,53	0,60	1,42

Conclusion: According to the methodology of the ISO 21702 standard (May 2019), in the conditions described above, the contact of the Coversafe Film (01 CSAFE01 XX) with the strain of human Coronavirus SARS-CoV 2 strain BASA induced a reduction of the log viral load of 1.42log after 1hour contact time, persisting at D10 of culture.