

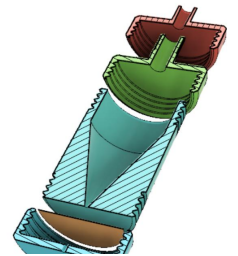
Sep 07, 2020

Version 1

covid 19 indirect detection thru rise of 100nm filter air resistance V.1

DOI

<https://dx.doi.org/10.17504/protocols.io.bkx8kxrw>



Ladislav Nevery

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Ladislav Nevery

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Protocol status: In development

We are still developing and optimizing this protocol

Created: September 07, 2020

Last Modified: September 07, 2020

Protocol Integer ID: 41696

Keywords: covid, pressure, test, covid 19 virus particle, filter air resistance, passing saliva sample, saliva of infected person, virus particle, raising filter air resistance, saliva sample, measured filter area, covid, high virus density, filter, filter area, high count of particle, saliva, threshold psi value, infected person, reaching threshold psi value, virus, particle,

Abstract

By passing saliva sample thru 200nm filter to remove particles larger than 120nm covid 19 virus particles and concentrating resulting fluid to very small 1 mm² area of 100nm filter. Pores in this small area of 100nm filter should be clogged up fast raising filter air resistance. Due to high virus density 5.2 log₁₀ ml saliva of infected person should clog filter much faster than healthy person. Test is setup in such way that act of compressor automatically turning off after reaching threshold PSI value will indicate high count of particles larger than 100nm of being present in measured filter area.

Attachments



PrototypeV7Printable...

9.1MB

Materials

MATERIALS

 prago por 10 **pragochema**

 prago por 8 **pragochema**

 3d filament

STEP MATERIALS

 Target2™ Nylon Syringe Filter, 0.2µm, 30mm **Thermo Fisher Catalog #F2500-2**

 prago por 10 **pragochema**



Protocol materials

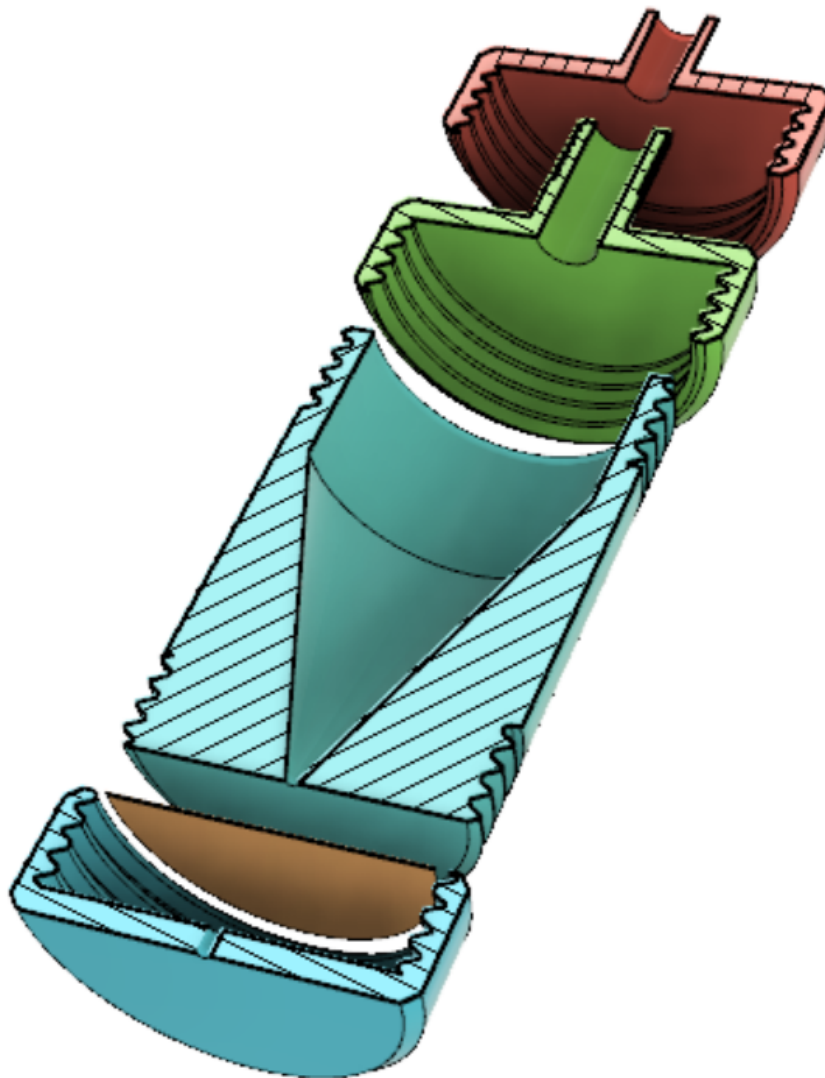
⊠ Target2[®]; Nylon Syringe Filter, 0.2 μ m, 30mm **Thermo Fisher Catalog #F2500-2**

⊠ pragopor 10 **pragochema**

⊠ pragopor 8 **pragochema**

⊠ 3d filament

- 1 3d print all required parts.



- 2 insert any 100nm 24mm filter like for example

 pragopor 10 pragochema

between blueparts and close with red cup with syringe input. add any commercial 200nm syringe filter like

 Target2™ Nylon Syringe Filter, 0.2µm, 30mm **Thermo**
Fisher Catalog #F2500-2

5m



.Place this 200nm filter between syringe and red syringe input port. colors are on attached image above

- 3 pass sample thru both 200nm and 100nm filter by applying pressure on syringe.

5m

- 4 now that 1 mm² area of 100nm filter has enough pores clogged up with median 120nm sized virus particles. replace red syringe cap with green compressor input cap. Use any compressor which can turn itself off when reaching set pressure. I used

5m

Equipment

Xiaomi Portable Compressor

NAME

Portable Compressor

TYPE

Xiaomi

BRAND

00000000

SKU

<https://www.amazon.com/Xiaomi-Portable-Compressor-Detection-Motorcycle/dp/B07XZCLGVQ>

LINK

set compressor to turn off after reaching threshold amount of psi and turn the compressor on.

Expected result

On sample without covid 19 virus threshold psi should not be reached

. If no compressor with proper psi sensitivity is available then monitor pressure in concentration chamber by any external sensitive manometer