
Viral Concentration Kit for Saliva and Other Biofluids

Cat#: SC10



Storing the viral concentration kit should be stored at 4-8°C.

Disclaimer

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Evomic Science LLC disclaims any and all responsibility for any injury or damage which may be caused by the failure of the buyer or any other person to use these products in accordance with the conditions outlined herein or in accordance with NIH guidelines for Biosafety Level 2 or up infectious agents and recombinant DNA material.



Introduction

SARS-CoV-2: Shoving a cotton swab deep into your nasal cavity to get a good specimen, e.g. SARS-CoV-2, is technically challenging and not a patient-friendly method. Variance of nasal swab specimens is the major contributor of pseudo-negative results in current SARS-CoV-2 RNA detection. Increasing evidence indicates that there is a compatible amount of viral particles in saliva, as in nasal cavities. More importantly, sampling saliva is less invasive, less variable, easy to collect a large volume of sample, and safer to health professionals than nasal swab sampling. Furthermore, current protocol for RNA and viral antigen detection methods failed to process large volumes of saliva samples (< 1 ml). We thus developed a viral concentration kit for saliva, in which all respiratory viruses are maximally collected by deeply coughing and then rinsing the whole mouth, to efficiently concentrate viral particles, up to 100 folds at any sample volume. The concentrated viral particles are suitable for both RNA and antigen detection with increasing sensitivity, as well as another *in vitro* and *in vivo* application. This kit is specifically suitable for viral detection for pooled saliva and other biofluids.

Other Viruses: this viral concentration kit, as an universal this viral concentration kit, is suitable for concentrating all viral particles and VLP (e.g. EBV, Adenovirus, rAAV, HAV, HBV, HCV, Dengue virus, SARS, Influenza, Retrovirus, Lentivirus Rotavirus etc) from biofluids, cell culture media, environmental samples, such as waste water.

A brief procedure is outlined below



- 1.** Deep **Cough** 3 times and Rinse mouth with 9 ml of saline for 60 seconds.


- 2.** Directly **Spit** saliva into viral concentration tube and Mix well.


- 3.** Recap the vial tightly and **Centrifuge** at 2,000g for 15 min.


- 4.** Suck Supernatants and **Suspend** pellet in lysis buffers.



Product Features:

- Fast (20 min), Efficient (>95% Yield), Easy (2,000g) to operate;
- Up to 100 fold concentrated,
- Suitable for all almost natural and recombinant virus particles.
- Suitable for biofluids, cell culture media, environmental samples, such as waste water.

Kit Components Additional Materials/Equipment

- Ten of the pre-prepared viral concentration tubes.
- Customers' need: Ten of empty saline tubes and Benchtop centrifuge.

Warning

This kit permits quick concentration of viral particles including all respiratory viruses e.g. SARS-CoV-2 and Influenza etc. The sample processing should be handled at least BSL3 safety level. The special precautions should be followed as your institute IRB and government guideline. Wear hand, eye, face, and body personal protective equipment (PPE) when processing samples collected with this kit. Evomic Science LLC takes no responsibility for improper use of this kit.

For research use only. Not for use in diagnostic or human clinical procedures.



Protocol for Virus Particle Concentration from Saliva:

1. Before saliva collection, do not eat, drink, smoke, or use oral hygiene products for at least 30 minutes.
2. Deep cough at least three times with a half-closed mouth.
3. Rinse the whole mouth vigorously with 9 ml of drink water, saline, or PBS buffer for one minutes.
4. Directly spit saliva into the pre-prepared viral concentration tubes.
5. Invert the above tubes at least times to mix well (Do not Vortex).
6. Option: store the sample in the refrigerator or mail it to labs.
7. Centrifuge the sample mix at 2,000×g for 15 minutes at 4°C or room temperature.
8. Carefully suck supernatants without disrupting the pellet, which contains virus.
Note: to remove any leftover supernatants further, repeat step 7 (centrifuge again).
9. Suspend the concentrated virus in PBS (e.g. 150 µl) or your desired buffer.
10. The concentrated viral particles can be used for
 - *In vivo* or *in vitro* viral infection (e.g. 70 µl).
 - Antigen testing directly (e.g. 70 µl).
 - RNA extract or direct RNA detection (e.g. 70 µl).(Note 1. Do not use classical TRIZOL reagent for RNA extract.
2. Elute RNA with hot water (95°C) if using column-based RNA extract kit).
11. We recommend to use the fresh isolated virus particle immediately. Otherwise, freeze sample at -80°C for longer periods.

(Note: Repeated thaw and freeze cycles can damage virus structure.)

Protocol for Virus Particle Concentration from Others:

1. Collect 10 ml of samples, e.g. cell culture media, waste water.
2. Add 10 ml of samples to the pre-prepared viral concentration tubes.
3. Follow the above step 5.

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