EchoLUTION™ Viral RNA/DNA Kit

Protocol for viral swabs

This is not a silica-based kit! Please read this protocol carefully before starting!

Prepare before starting

- ☐ Vortex EchoLUTION Spin Column thoroughly to homogenize the purification matrix and remove air bubbles. Place each column in a 2 mL reaction tube and let them stand for at least 10 minutes. Ideally, use a swing-out rotor centrifuge with our Spin Column Adapter for Plate Centrifuges (product number: 050-011-024).
- ☐ Set centrifuge to **1,000 x *g***

IMPORTANT NOTE: *Choose **x g (RCF), NOT RPM.***

Preparation of BioEcho Spin Column

- ☐ Loosen the cap of Spin Column by half a turn and snap off the bottom.
- ☐ Place Spin Column in **2 mL** tube
- ☐ Centrifuge **1 min** at **1,000 x *g***
- ☐ Place Spin Column in fresh **1.5 mL** tube

1000 x g
1 min

Sample preparation and lysis

- ☐ **Add 50 µL** of **LyseNtact Buffer New Formula** to a 1.5 mL reaction tube.
- ☐ **Optional: Add 0–20 µL** of your internal control (IC) to the reaction tube containing the LyseNtact Buffer New Formula.
- ☐ **Vortex the tube containing the swab carefully and add 50 µL** of **sample** (swab-rinsing solution containing the viral particles) to the reaction tube containing LyseNtact Buffer New Formula and IC:

A) Dry swabs: Rinse swab in **EchoSAFE Viral Transport Medium**, PBS, or other aqueous buffer of **pH 7.2–8.5** to dissolve the viral particles.

NOTE: *It is recommended to not use more solution volume than needed; 300–700 µL is usually sufficient. With Amies agar swabs, avoid the carry-over of agar particles.*

B) Swabs in transport media: Add **50 µL** of sample (e. g., Copan UTM, eSwab medium) to the reaction tube containing LyseNtact Buffer New Formula.

Purification of viral RNA and DNA

- ☐ Unscrew Spin Column and transfer **90 µL sample mixture** from the reaction tube **slowly** and **vertically** onto the **middle** of the purification matrix in the Spin Column.
- ☐ Centrifuge **1 min** at **1,000 x *g*** with the **cap loosened ½ turn.**

1000 x g
1 min

Viral RNA/DNA is in the flow-through and ready to use.

NOTE:

- *PCR inhibition observed in combination with your PCR system can be eliminated by loading a reduced sample mixture volume to the Spin Column, e. g., 75 µL or 50 µL instead of 90 µL.*
- *Internal Controls (IC) that are added before the purification step should be ≥500 nt in length.*

BIO ECHO

Product use limitation

This kit is for research use only. It is not registered or authorized to be used for diagnosis, prevention or treatment of a disease.

BioEcho Life Sciences GmbH, Nattermannallee 1, 50829 Cologne, Germany | +49 (0)221 99 88 97-0 | contact@bioecho.de | www.bioecho.com

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1000 x g
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Purification of viral RNA and DNA

☐ Unscrew Spin Column and transfer 90 µL sample mixture from the reaction tube slowly and vertically onto the middle of the purification matrix in the Spin Column.
☐ Centrifuge 1 min at 1,000 x g with the cap loosened ½ turn.

1000 x g
1 min

Viral RNA/DNA is in the flow-through and ready to use.

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EchoLUTION™ Viral RNA/DNA Kit

Protocol for stool samples

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- ☐ Vortex EchoLUTION Spin Column thoroughly to homogenize the purification matrix and remove air bubbles. Place each column in a 2 mL reaction tube and let them stand for at least 10 minutes. Ideally, use a swing-out rotor centrifuge with our Spin Column Adapter for Plate Centrifuges (product number: 050-011-024).
- ☐ Set centrifuge to **1,000 x *g***

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- ☐ Centrifuge **1 min** at **1,000 x *g***
- ☐ Place Spin Column in fresh **1.5 mL** tube

1000 x g
1 min

Sample preparation and lysis

- ☐ **Add 50 µL** of **LyseNtact Buffer New Formula** to a 1.5 mL reaction tube.
- ☐ **Optional: Add 0–20 µL** of your internal control (IC) to the reaction tube containing the LyseNtact Buffer New Formula.
- ☐ Mix approx. **25 mg stool** with **1 mL TE Buffer or PBS**.
- ☐ **Vortex** until stool sample is resuspended.
- ☐ Let stand **on ice** until next step.
- ☐ Centrifuge for **15 s** at **10,000 x *g***
- ☐ Transfer **50 µL of supernatant** to reaction tube containing LyseNtact Buffer New Formula and mix by pipetting up and down or vortex.
- ☐ Close tube and incubate for **10 min** at **95 °C**.
- ☐ Let tube cool down at **RT** for **5 min**.

10000 x g
15 s

Purification of viral RNA and DNA

- ☐ Unscrew Spin Column and transfer **90 µL sample mixture** from the reaction tube **slowly** and **vertically** onto the **middle** of the purification matrix in the Spin Column.
- ☐ Centrifuge **1 min** at **1,000 x *g*** with the **cap loosened ½ turn.**

Viral RNA/DNA is in the flow-through and ready to use.

1000 x g
1 min

NOTE:

- *PCR inhibition observed in combination with your PCR system can be eliminated by loading a reduced sample mixture volume to the Spin Column, e. g., 75 µL or 50 µL instead of 90 µL.*
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