#GK12 GRS Viral DNA/RNA Purification Kit

Notes on Sample Preparation

(FOR RESEARCH ONLY)

The GRS Viral DNA/RNA Purification Kit provides an efficient and fast method for the purification of high quality viral DNA and RNA from cell-free media (e.g. from serum, plasma, body fluids, and the supernatant from viral infected cell cultures). Eluted purified Nucleic Acid is suitable for all common applications, including PCR, real-time PCR, RT-PCR, One-step qRT-PCR, and DNA Sequencing. This kit is recommended for parallel purification of viral DNA (including CMV and HBV) and viral RNA (including HIV, HTLV, and HCV). The detection limit depends on the type of virus and on the sensitivity of individual PCR or RT-PCR protocols.

Lately, the GRS Viral DNA/RNA Purification Kit has been successfully used for the detection of SARS-CoV-2, the new coronavirus responsible for the COVID-19 outbreak.

Sample preparation:

General: Transfer 200µl of cell-free medium (such as serum, plasma body fluids, supernatant of viral infected cell culture, as well as **nasopharyngeal and oropharyngeal washes**) into a DNase/RNase-free 1.5-ml microcentrifuge tube. [If the sample volume is less than 200µl, adjust volume with PBS]. Then, proceed with **step 2** of the main protocol by adding 400µl of Viral Lysis Buffer and continue according to the protocol.

Sputum samples and viscous nasopharyngeal/oropharyngeal/tracheal aspirates: Transfer into a sterile cup and add an equal volume of NALC-NaOH solution (2% NaOH, 1.45% Na-citrate, 0.5% NALC) and mix with the specimen. Incubate at room temperature for 20 min with constant shaking. Centrifuge the liquefied sample to pellet debris, and transfer the clear supernatant to a clean tube. Transfer 200µl of the lysate into a DNase/RNase-free 1.5-ml microcentrifuge tube. Then, proceed with **step 2** of the main protocol by adding 400µl of Viral Lysis Buffer and continue according to the protocol.

Swab samples: Transfer the swab tip into a DNase/RNase-free 1.5-ml microcentrifuge tube containing **500µl** of Viral Lysis Buffer. Vortex for 30 seconds. Incubate at room temperature for 10 minutes. Remove the swab tip and proceed with **step 4** of the main protocol by adding 450µl of Binding Buffer and continue according to the protocol.

Safety Condiserations:

Many viruses, including SARS-CoV-2 are pathogenic to human; hence isolation and identification must be carried out by trained laboratory personnel only, in a properly equipped laboratory with proper containment level. Care must be taken in the sterilization and disposal of all test materials. All procedures must be performed in the designated area of the laboratory. Disposable gloves and protective clothing must be worn during all procedures. All relevant National and Local Regulations must be met.