

Reagent	Manufacturer	Catalog #
DNA and Viral Small Volume Kit (3x192 purifications)	Roche	06543588001
TaqPath 1-Step RT-PCR Master Mix, GC (2000 reactions)	ThermoFisher	A15300
COVID-19 N1-F Primer	IDT	Custom
COVID-19 N1-R Primer	IDT	Custom
COVID-19 N1-P Probe	IDT	Custom
COVID-19 N2-F Primer	IDT	Custom
COVID-19 N2-R Primer	IDT	Custom
COVID-19 N2-P Probe	IDT	Custom
COVID-19 N3-F Primer	IDT	Custom
COVID-19 N3-R Primer	IDT	Custom
COVID-19 N3-P Probe	IDT	Custom
RP-F Primer	IDT	Custom
RP-R Primer	IDT	Custom
RP-P Probe	IDT	Custom
COVID-19 N Positive Control	IDT	Custom
Hs RPP30 Internal Extraction Control	IDT	Custom

**Fig. 10.1** Details of reagents used in the LabCorp kit

of master mix at a concentration of copies/uL. This is also added to each of the assay plates.

- (3) To confirm the presence of nucleic acid in the sample an internal Hs\_RPP30 control targeting RNase P is used. This is an extraction control.
- (4) An NEC (Negative extraction control) obtained from previous testing is used for the negative patient sample confirmation (Fig. 10.2).

## 10.2 RAPID Test Kit for COVID Detection Based on Antibodies Identification

RAPID test kits involve the identification of antibodies in the blood or other specimen samples based on their binding to the test antigens added in the test. The tests are mostly based on the lateral flow qualitative immune-chromatographic assay [4]. The results are read based on the development of a colored line similar to the HCG detection kit. The targeted antibodies are Immunoglobulin M-IgM, and Immunoglobulin G-IgG in the samples like blood, serum or plasma. The results in this test can be visually analyzed and obtained within a time frame of 10 min. Best approach in emergencies and is a cost effective method for diagnosis.

Most of the available RAPID test kits available globally are designed with a sample pad and a chromatographic membrane, mostly a nitrocellulose membrane that is coated with mouse anti-human Immunoglobulin M monoclonal antibody and a mouse anti-human IgG monoclonal antibody and goat anti-mouse IgG antibody. It also has a colloidal binding pad coated with labeled recombinant novel coronavirus (COVID-19) antigen and mouse IgG antibody, a liner and an absorbent pad [5]. The results are detected based on the development of colored lines on the chromatographic strip. Unfortunately, Rapid testing kits against COVID 19 has not been a great success