Explore the World of RNA:
Silicon-Carbide vs. Silica

1 Broad Spectrum RNA Binding

- Unlike silica columns, silicon-carbide technology exhibits uniform binding affinity for all RNA species - regardless of molecular weight or G-C content. This ensures the full diversity of small and microRNA are captured.

2 High Sensitivity

- The sensitivity of diagnostic viral qRT-PCR detection kits are strongly affected by RNA quality.
- Norgen's SiC technology yields high-quality viral RNA without contaminants, enabling detection as low as 400 viral copies/mL of saliva.
- This is crucial for the detection of ultra-low viral loads in asymptomatic and recovering patients.
- Nucleic acids stored in viral transport media can degrade over time, generating fragmented viral RNA. Norgen's SiC technology allows for capture of such fragments, avoiding false-negative results.

3 Carrier RNA-Free Extraction

- To enhance the RNA binding efficiency of silica-based technology for capturing ultra low RNA yields, poly(A) carrier RNA, is commonly used in RNA extraction kits.
- The presence of carrier RNA in the eluate can severely impact sensitive downstream applications like RNAseq.
- Norgen's SiC technology does not require the use of carrier RNA, and is suitable for all molecular-based downstream applications.

4 Phenol-Chloroform-Free Extraction

- The use of hazardous chemicals such as phenol/chloroform is laborious and difficult to automate. The quality of RNA extracted in this manner may not be high enough for sensitive downstream applications.
- Norgen's Sic technology does not utilize phenol/chloroform or any hazardous organic chemicals, and the high-quality eluted RNA will be optimum for any sensitive downstream application.

5 Virus Inactivating Buffers

- The use of universal transport media (UTM) and VTM is a common practice in disease screening programs, however, samples stored in these media leave medical laboratory technicians potentially exposed to infectious samples.
- Thus, RNA extractions that include lytic buffers like Norgen's Lysis Buffer A and Buffer RL are ideal for sampling methods that utilize UTMs and VTMs as they render the UTM/VTM samples non-infectious.