# Attana Virus Analytics

## The next generation of virus intelligence

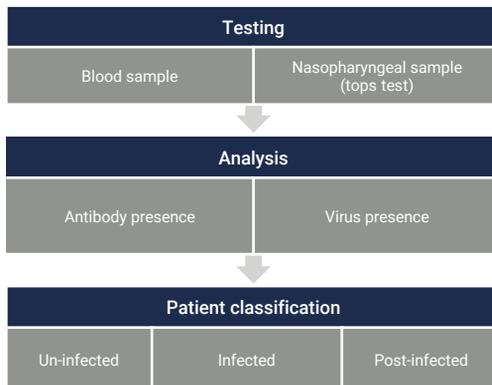### COVID-19 exposing the vulnerabilities of society

The ongoing pandemic has exposed both our bodies' vulnerability towards viruses and the human civilization's susceptibility to disinformation, misinformation and lack of information.

### One of the greatest threats to global health

SARS-CoV-2 is only 1 of $10^{31}$ unique viruses estimated to exist on Earth. In 2019, WHO even declared a global influenza pandemic as one of the greatest threats to global health.
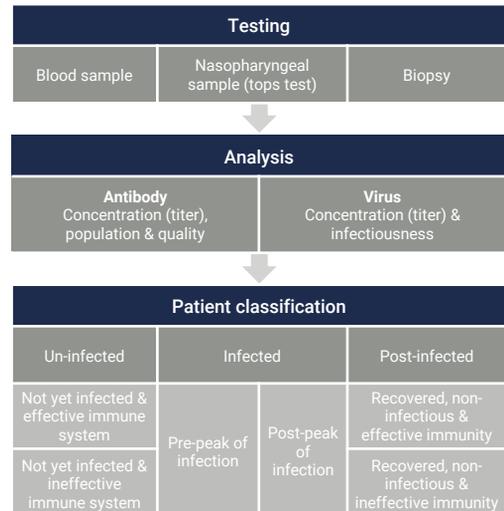
Attana's Quartz Crystal Microbalance (QCM) biosensors provide unique patient insights. Below is a comparison of the current viral testing process, providing binary results, and Attana's superior testing process, allowing for in-depth patient classification and extensive insights.

### Current viral testing process

| Testing | |
|---|---|
| Blood sample | Nasopharyngeal sample (tops test) |

| Analysis | |
|---|---|
| Antibody presence | Virus presence |

| Patient classification | | |
|---|---|---|
| Un-infected | Infected | Post-infected |

The current binary results limits the insights to a basic patient classification and lacks the capability of identifying Attana's sub-classification

### Attana's viral testing process

| Testing | | |
|---|---|---|
| Blood sample | Nasopharyngeal sample (tops test) | Biopsy |

| Analysis | |
|---|---|
| **Antibody** Concentration (titer), population & quality | **Virus** Concentration (titer) & infectiousness |

| Patient classification | | | |
|---|---|---|---|
| Un-infected | Infected | | Post-infected |
| Not yet infected & effective immune system | Pre-peak of infection | Post-peak of infection | Recovered, non-infectious & effective immunity |
| Not yet infected & ineffective immune system | | | Recovered, non-infectious & ineffective immunity |

### Collecting a wider range of inputs

In the AVA testing process, blood, nasopharyngeal and biopsy samples are analyzed using Attana's cutting-edge QCM biosensors, providing the necessary foundation for observing important virus and antibody characteristics.

### Deeper analysis of viral metrics

With AVA's capability of going further than examining antibody and virus presence, other crucial metrics are analyzed to provide more in-depth insights than what is currently found on the market.

### Improved patient classification

Attana's sub-classifications can be defined based on observed antibody and virus metrics; these provide more extensive insights on important aspects of individual's immune system status, state of infection and grade of immunity.

# Attana Virus Profile

### Enabling cost-savings & commercialization

AVA can not only save astronomical costs by bringing new and accurate info for large-scale testing, it can also be used to construct several commercial application for individuals, corporations and institutions.

### Attana Virus Profile (AVP)

AVP is a consumer-oriented application; a collective platform for all patient results and insights. AVP is a cloud-based service that gathers data from multiple sources and combines it with test results to generate the most valuable insights and features, offering services like treatment plans, contact tracing and vaccination guidelines.

Every individual receives a personalized AVP based on their results, including historical data on previously taken tests.