

28<sup>th</sup> May 2020

## **TESTING VERSUS THE SURROGATE OF COVID-19**

### **-     WHAT DOES IT MEAN?**

1. On 20<sup>th</sup> April 2020, Holista announced on the Australian Stock Exchange that independent third-party testing at British BioSafety Lab that Natshield™ was proven effective with a reduction of 99.99% reduction within a minute against feline coronavirus, strain Munich.
2. The Centers for Disease Control and Prevention (CDC) has categorised SARS-CoV-2 virus as biohazard level 3 and above. This means the virus will not currently be available for commercial testing at this point in the pandemic.
3. The feline coronavirus is one of the 4 internationally accepted surrogate or proxy for SARS-CoV-2 which causes COVID-19. This virus used in laboratories as a close but safer alternative to human pathogenic strains of coronavirus.
4. A virus is an infectious particle made up of a core of genetic material surrounded by protective protein coat. They are known as “obligate intracellular parasites”. Unlike most bacteria, they can only replicate within a living host cell as they cannot carry out metabolic processes. They rely on the cell of the living host to form proteins and multiply. As such, they are controversially defined as “non-living entities”.
5. Coronaviruses are a large family of zoonotic viruses. They can pass from animal to humans upon mutation. They are named after the Latin word “corona”, meaning “crown”. This crown of proteins help the virus identify whether it can infect its host.
6. There are seven coronaviruses known to cause disease in humans,. Four of are considered mild in their pathogenicity - 229E, OC43, NL63 and HKU1.

The other strains can cause more serious diseases in humans. SARS (severe acute respiratory syndrome, or SARS-CoV-1) emerged in late 2002, followed by MERS (Middle East respiratory syndrome, or MERS-CoV) in 2012.

7. SARS-CoV-2 is the name given to the novel coronavirus identified in 2019 which is a new strain of coronavirus previously unidentified in humans. COVID-19 is the name given to the disease caused by the virus.
8. The difference lies with the mutation and the pathogenicity of the virus. We are still trying to fully unravel the molecular structure of this new coronavirus.
9. Scientists believe that the virus may have been passed from bats or other animals such as pangolins or snakes and then transmitted to humans.
10. The two strains of coronavirus are within the same family. However, they separate at genus in to alphacoronavirus and betacoronavirus. The differences between the two genera are not entirely clear. Studies suggest that betacoronaviruses are more likely to jump across species.
11. Feline coronavirus is in the same family, sharing almost identical structure and similarity.
12. The difference being that SARS-CoV-2 targets more hosts such as humans, bats, pangolins and even, snakes. The feline coronavirus has more host specificity and is transmitted in cats only. In other words, the difference between the two appears to be the cells that they adhere to human cells and feline cells. However, we still continue to learn more.
13. The table below demonstrates the evolutionary relationship between the feline coronavirus, strain Munich and SARS-CoV-2:

-	Feline coronavirus	<b>SARS-CoV-2 (COVID-19)</b>
Realm	Riboviria	Riboviria
Order	Nidovirales	Nidovirales
Family	Coronaviridae	Coronaviridae
Genus	Alphacoronavirus	Betacoronavirus
Species	Alphacoronavirus 1	COVID-19

14. This may be the reason why domestic animals do not suffer the same symptoms from SARS-CoV-2 in the same way as humans.
  
15. While this test done in the United Kingdom, allows us to conclude that “Natshield™ kills 99.99% of coronaviruses” or more specifically “Natshield™ kills 99.99% of surrogate of Covid-19”, we are now testing versus the actual SARS-CoV-2 (COVID-19) at a CDC approved laboratory.



**Dr. Roscoe Moore**  
Chairman  
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*Roscoe Moore is a Doctor of Veterinary Medicine by clinical training and holds a Ph.D. degree in Epidemiology. He served as the Chief Veterinary Medical Officer within the U.S. Public Health Service appointed by the Surgeon General of the United States. He also served two United States Presidents as Assistant U.S. Surgeon General and is now serves on the Board of Directors for the Global Virus Network and a member of a number of International Covid-19 Advisory Boards.*