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## Besvarelse vedr.

### ▸ Test for COVID-19 i mink i eksponeret besætning

#### Bestilling

▸ I forhold til tilrettelæggelse af prøvetagning for COVID-19 i mink i besætninger, som har været eksponeret for COVID-19 smittede medarbejdere ønskes følgende besvaret:

- Hvor hurtigt efter eksponering forventes COVID-19 at sprede sig en minkbesætning?
- Hvor lang tid efter eksponeringen skal der gå (i forhold til sygdomsspredning) for, at man med stor sandsynlighed vil kunne påvise COVID-19, såfremt virus er til stede blandt dyrene?

#### Svar

▸ From experimental infections of ferrets with SARS-CoV-2, it was observed that the highest level of viral RNA and virus was detected at 4-6 days post-inoculation in nasal washes. However, it should be noted that this followed inoculation with  $10^5$  plaque forming units (pfu) of SARS-CoV-2, it may well be that a lower dose would result in a slower progression of the infection. In this context, it is important to note, that for several other viral diseases (eg distemper and Aleutian Disease) disease development and susceptibility are not the same for mink and ferrets.

It seems unlikely that many animals would be infected initially from an infected farm worker, unless the feed was heavily contaminated. Currently there is no indication of feed transmission reported. Thus, for the virus to spread widely within the farm it is likely to go through multiple cycles of infection and amplification within the infected farm. Therefore, it could take a few (2-3) weeks before a high proportion of the animals are infected.

It seems to be possible to detect a serological response to SARS-CoV-2 infection in ferrets by 13 days post-inoculation but the response was higher in animals euthanized at 20 days post-inoculation. Again it should be noted, that this may not be the same for mink.

On the infected-mink farm in Denmark, it appears that a very high proportion of the animals had seroconverted so were likely to have been infected at least 2 weeks prior to the time of sampling. Thus, it may be expected that the initial introduction to the farm may have occurred at least 1 month prior to sampling.

A smaller proportion (5 of 30) of the mink in Denmark had viral RNA in faecal samples. In ferrets, excretion of viral RNA in rectal swab samples reached a peak at about 6 days post-inoculation and then was undetectable from 10 days post-inoculation. The mink that had viral RNA in the faecal samples are likely to be those most recently infected.



Oral swab samples appear to have higher level of viral RNA than rectal swabs and thus may provide greater sensitivity.

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