

SARS-COV-2 IN ANIMALS:

Guidance for Testing and Reporting

Background:

The [World Organisation for Animal Health](#) (WOAH) expects member countries, including the U.S., to report confirmed Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) cases in any animal species because they meet the WOAH definition of “emerging disease.” All confirmatory testing for cases of SARS-CoV-2 in animals in the U.S. is conducted at the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) National Veterinary Services Laboratories (NVSL). The first confirmed SARS-CoV-2 case in an animal species in the U.S. was in a tiger (*Panthera tigris*), which APHIS reported to WOAH, per reporting requirements ([Terrestrial Code, Chapter 1.1, Article 1.1.2 and 1.1.3](#)), on April 6, 2020. Since then, SARS-CoV-2 has been confirmed in several additional animal species in the U.S., most of which occurred during the circulation of the delta variant in humans. As additional cases are confirmed at NVSL, APHIS continues to submit routine updates to WOAH and to update the [APHIS public dashboard](#).

Like the approach with other zoonotic diseases, such as highly pathogenic avian influenza, APHIS collaborates with and relies upon the expertise of our veterinary diagnostic laboratories to perform testing and report results quickly and accurately and to partner with us to use our collective resources most efficiently. Monitoring the SARS-CoV-2 in animal populations remains a priority for APHIS. All laboratories are encouraged to submit samples from presumptive cases to NVSL for confirmation and characterization, especially when unexpected morbidity or mortality occurs.

USDA also provides funding specifically to address research questions such as the susceptibility of different animal species, to better understand of viral evolution and the impact of new variants, and to monitor the virus where it might be maintained in animal populations. APHIS collaborates with public health partners by supporting SARS-CoV-2 response activities and [sharing information about confirmed cases](#).

Testing Information:

APHIS encourages collaboration with public health and animal health officials, using a One Health approach on the decision to test potentially exposed and clinically ill animals for SARS-CoV-2. Consult these websites to find your appropriate state officials: [State Animal Health Official](#) and [State Public Health Veterinarian](#). Refer to additional information at [Evaluation for SARS-CoV-2 Testing in Animals | CDC](#).

Many laboratories perform initial SARS-CoV-2 testing, including members of the [National Animal Health Laboratory Network](#) (NAHLN) and private veterinary laboratories. Please communicate with the intended testing animal health laboratory before shipment to receive any specific instruction for packaging samples. All laboratories are responsible for forwarding appropriate samples to NVSL for confirmatory testing as described below. All testing at NAHLN and other laboratories is completed at the cost of the submitter unless otherwise agreed upon at the State and Federal levels. Confirmatory testing for SARS-CoV-2 is conducted at NVSL and is typically conducted at no charge to the submitter.

- **Naturally occurring SARS-CoV-2 infections in any animal species are expected to be confirmed at NVSL EXCEPT** for those in household cats, household dogs, and white-tailed deer from states, territories, or tribal nations that have previously had a confirmed case in that species. However, NVSL offers virus characterization for these cases at no cost to the submitter and welcomes data to contribute to the national analysis from laboratories that sequence samples from these cases. Please consult the figure at the end of this document for further guidance on when to submit samples to NVSL.

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- Ship samples for confirmation to NVSL within 5 business days of the first positive test.
- For submission of samples to NVSL, follow the protocols for [packaging and labeling submissions to the NVSL](#). Diagnostic samples may be shipped as exempt material; UN3373 may be used where the situation warrants. Maintain sample cold chain using frozen gel ice packs.

Research studies of natural infection with SARS-CoV-2

For research studies in animals with naturally occurring SARS-CoV-2, NVSL confirmation and reporting may be required for cases, except for those in household cats, household dogs, and white-tailed deer. Contact NVSL at NVSL.DVL.Heads@usda.gov for further information.

- **IMPORTANT:** Be sure to retain adequate original collected sample for submission to NVSL to allow for this confirmatory testing (a minimum of 200µl of original sample).
- Where whole genome sequencing was conducted, the unaltered data files directly from the sequencer (i.e., FASTQ) should be submitted to NVSL for analysis.
- Ship samples for confirmation to NVSL within 5 business days of initial positive PCR test result.
- For submission of samples to NVSL, follow the protocols for [packaging and labeling submissions to the NVSL](#). Diagnostic samples may be shipped as exempt material; UN3373 may be used where the situation warrants. Maintain sample cold chain using frozen gel ice packs.

NOTE: This information may be used for reporting purposes; however, details of the research project and results will remain confidential as laws allow. This guidance does not apply for research studies involving experimental infections.

Reporting Criteria:

SARS-CoV-2 is a U.S.-Notifiable disease that is immediately reportable under the APHIS [National List of Reportable Animal Diseases](#) (NLRAD). NLRAD reporting is in accordance with the [NLRAD Standards](#) for Notifiable diseases and by APHIS to WOAAH.

Public Reporting Resources

USDA continues to submit routine updates to WOAAH and to update the [APHIS public dashboard](#) with cases of SARS-CoV-2 infection in animals confirmed at NVSL.

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