



UNIVERSITY
of Prince Edward
ISLAND



Influenza-A Virus Sample Collection Guidelines – Domestic Animals

Influenza-A Virus

Influenza-A virus causes contagious viral infections in many avian species including poultry, wild and exotic birds, shore birds and migratory waterfowl, but can also affect some mammals.

Avian influenza (AI) in domestic poultry can vary from subclinical to acute disease, the latter characterized by high morbidity and mortality. Lesions vary depending upon the strain of virus and the species affected. The most severe form is referred to as highly pathogenic avian influenza (HPAI) and to date has only been associated with viruses that express the H5 and H7 hemagglutinin subtypes.

The ability to rapidly identify poultry infected with influenza-A virus, in particular those viruses that express H5 and H7 hemagglutinin subtypes, can significantly reduce the economic damage that is associated with these infections. Delay in the diagnosis of a notifiable H5 or H7 AIV infection in domestic poultry may result in the undetected spread of the virus to neighboring flocks which can have negative consequences on control and eradication measures.

Submission Instructions

Only veterinarians or agents acting on their behalf are permitted to submit samples to the Atlantic Veterinary College (AVC) for Influenza A Virus testing. We **do not** provide services to the general public.

If there is a high suspicion of an FAD agent causing mortality on a premise, please contact the Canadian Food Inspection Agency (CFIA) directly. CFIA will determine if samples/carcasses will be submitted to AVC for FAD testing.

Sample submissions for Influenza-A Virus testing **cannot** be dropped off directly to the FAD laboratory. Samples should **never** be dropped off and left unattended at AVC. Please call the Regional Diagnostic Virology Services (RDVS) laboratory at 902-566-0877 for assistance.

Sample Selection Guidelines for Suspected Inf-A Infection

Avian

Avian influenza viruses are best detected from specimens taken from respiratory or gastrointestinal tracts.

Swabs: Tracheal or oropharyngeal and cloacal swabs in viral transport media

Clean Tissues: Trachea, lung, spleen, kidney, and brain

Dirty Tissues: A section of gut, cecal tonsils, and proventriculus

Mammalian

Mammalian influenza viruses are best detected from nasal swabs, oral fluid swabs, and lung.

Swabs: Nasal and oral fluid swabs in viral transport media

Clean Tissues: Lung

Collecting Swabs in Viral Transport Media (VTM)

Swabs for Inf-A RT-rtPCR testing **must** be submitted in viral transport media (VTM). Gel-based swabs typically submitted for Bacteriology testing are **not** suitable for PCR testing and will be rejected by the FAD laboratory.

VTM vials may be purchased from VWR (Catalog # CA73270-008) or from the Regional Diagnostic Virology Services Laboratory (subject to availability). Please contact RDVS by phone (902-566-0877) or email (rdvsavcds@upe.ca) for purchase inquiries.

To collect the swabs(s):

1. Label each vial of VTM with a unique identifier.
2. Use a sterile swab (synthetic fiber swabs only) to collect the sample(s).
3. After swabbing the specimen(s) to collect the sample, gently agitate the swab(s) in the VTM for ~5-10 seconds.
4. Carefully lift the swab(s) out of the VTM and gently press the swab(s) on the inside of the VTM vial to squeeze out any fluid from the swab(s).
5. Remove the swab(s) from the VTM vial and discard the swab(s) through the appropriate disposal methods. Please **do not** leave the swab(s) in the VTM.
6. Vials of VTM may be stored at 2-8°C for up to 24 hours after sample collection. For longer storage (>24 hours), vials of VTM should be stored at -70°C or colder.
7. Please refer to the “FAD Sample Submission Guidelines” for further information on packaging and shipping FAD samples to the laboratory.

Domestic Mammals**Single animal:**

Oropharyngeal/tracheal swabs may be pooled together in a single vial of VTM.

Multiple animals (up to 10 animals of the same species):

- Oropharyngeal/tracheal swabs may be pooled together in a single vial of VTM.
- Cloacal swabs may be pooled together in a separate vial of VTM.
- Do **not** pool oropharyngeal/tracheal and cloacal together in the same vial of VTM.

Domestic Poultry**Single animal:**

- Oropharyngeal/tracheal swabs may be pooled together in a single vial of VTM.
- Cloacal swabs must be submitted in a separate vial of VTM.
- Do **not** pool oropharyngeal/tracheal and cloacal together in the same vial of VTM.

Multiple animals (up to 10 animals of the same species):

- Oropharyngeal/tracheal swabs may be pooled together in a single vial of VTM.
- Cloacal swabs may be pooled together in a separate vial of VTM.
- Do **not** pool oropharyngeal/tracheal and cloacal together in the same vial of VTM.

Collecting Tissues

Clean Tissues: Trachea, lung, spleen, kidney, and brain, taken aseptically.

Dirty Tissues: A section of gut, cecal tonsils, and proventriculus. Collect “dirty” tissues after the “clean” tissues and keep separate.

- All “clean” tissues from an *individual animal* are placed in one leak-proof container.
- All “dirty” tissues from an *individual animal* are placed in a separate leak-proof container.
- **Always** keep “clean” and “dirty” tissues in separate containers.
- The leak-proof containers containing the “clean” and “dirty” tissues are placed inside an overpack to keep the tissues from the *individual animal* together.
- Tissues may be stored at 2-8°C for up to 24 hours after sample collection. For longer storage (>24 hours), tissues should be stored at -70°C or colder.
- Please refer to the “FAD Sample Submission Guidelines” for further information on packaging and shipping FAD samples to the laboratory.