Microzone Product Datasheet

Product code: AVDX-NDV-100 Lot Number:

Avian GEN Dx - Newcastle Disease Virus (NDV) RT-qPCR Detection kit

P. Code	Size in 100 Rxn	Component	Description	Lot Number	Expiry
MM-NDV-1	1 vial	2X MegaMix NDV Mastermix (Lyophilised)	Hot Start Taq, Reverse Transcriptase & RNase Inhibitor in optimised buffer and lyophilised format.		
LYORB-1	1 x 1 mL	MasterMix Reconstitution Buffer	Reconstitution Buffer for re-hydration of 2X MegaMix NDV Mastermix.		
NDV-DM-0.5	1 x 500 µL	NDV Detection Mix (Lyophilised)	Primers and Probe for Newcastle Disease Virus detection.		
NDV-PC-0.1	1 x 100 µL	NDV Positive Control	Synthetic DNA containing sequence of NDV.		
5JWA-1	1 x 1 mL	Just Water (Molecular Grade Water)	Aliquoted, quality controlled, nuclease-free, molecular grade water.		
ROX-0.05	1 x 50 µL	25 µM ROX Reference Dye	25 µM ROX Reference Dye		

Applications

- Detection of pathogenic field strains of Newcastle Disease Virus (NDV).

Product Description

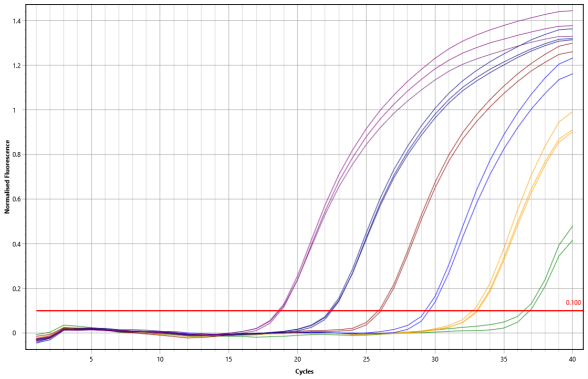
Newcastle Disease Virus (NDV) is a highly contagious avian virus that causes significant disease and economic losses in poultry. As many NDV vaccines are based on low-virulence lentogenic strains, differentiation between vaccine strains and pathogenic field strains is important for effective surveillance.

The Avian GEN Dx – Newcastle Disease Virus RT-qPCR Detection Kit is designed for the sensitive and specific detection of pathogenic NDV field strains, including mesogenic and velogenic strains. The assay uses primers and probe targeting a virulence-associated region within the fusion (F) gene and is designed to support differentiation between pathogenic field strains and commonly used lentogenic vaccine strains.

The kit contains all components required for RT-qPCR, including a lyophilised mastermix with Hot Start Taq DNA Polymerase, Reverse Transcriptase and RNase Inhibitor, an NDV Positive Control and NDV Detection Mix. It is compatible with real-time PCR instruments capable of detecting FAM-labelled probes and is suitable for molecular surveillance and outbreak investigation.

Key Features

- Ambient temperature shipment.
- Rapid PCR profile—get results in less than 80 minutes.
- Excellent sensitivity and specificity.



Avian GEN Dx - Newcastle Disease Virus (NDV) RT-qPCR Detection kit demonstrates excellent reproducibility and accuracy across a wide dynamic range. RT-qPCR amplification of fusion protein (F) gene from six 10-fold dilutions of synthetic NDV Positive Control. Mic qPCR Cycler (BMS, Upper Coomera - Australia).

Protocol

- Reconstitute the 2X MegaMix NDV Mastermix (Lyophilised) by adding 1 mL of MasterMix Reconstitution Buffer and let it re-hydrate for 30 minutes.
- Reconstitute the NDV Detection Mix (Lyophilised) by adding 500 µL of Just Water and let it re-hydrate for 30 minutes.
- Thaw all reagents completely and mix well before use.
- Prepare a meta mastermix as described in the table below:

Components	Per Test
2X MegaMix NDV Mastermix	10 µL
Newcastle Disease Virus (NDV) Detection Mix	5 µL
Total Volume	**15 µL**

Add 5 µL of Sample and 15 µL meta mastermix in the PCR tube.

For Negative Control: 5 µL Just Water

For Positive Control: 5 µL NDV Positive Control

Thermocycling

Transfer the reactions to the thermal cycler and set as follows:

Step	Cycles	Temperature	Time
Reverse Transcription	1	50°C	15 min
Initial Denaturation	1	95°C	2 min
PCR Amplification and Signal Detection	40	95°C	15 sec
		60°C	30 sec

Channel Setting	
Newcastle Disease Virus (NDV)	FAM

Optional ROX Addition to mastermix: For low-ROX instruments, add ROX to a final concentration of 50 nM (0.04 µL of 25 µM ROX per reaction). For high-ROX instruments, use a final concentration of 500 nM (0.4 µL per reaction). Refer to the instrument manufacturer's instructions to confirm the required ROX concentration.

Follow the Instructions of Use (IFU) manual for a detailed guide on the assay principle and interpretation of the results.

For research use only

Product Handling

Storage

To ensure the quality of the product until the expiry date keep at the recommended storage temperature and limit exposure to light.

Contamination Control

To prevent erroneous results ensure work environment is free of contamination by cleaning your workstation and equipment with a DNA decontaminant daily, wear gloves, use sterile tubes and filter pipette tips.

Simple | Effective | Efficient

Version 2.03

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