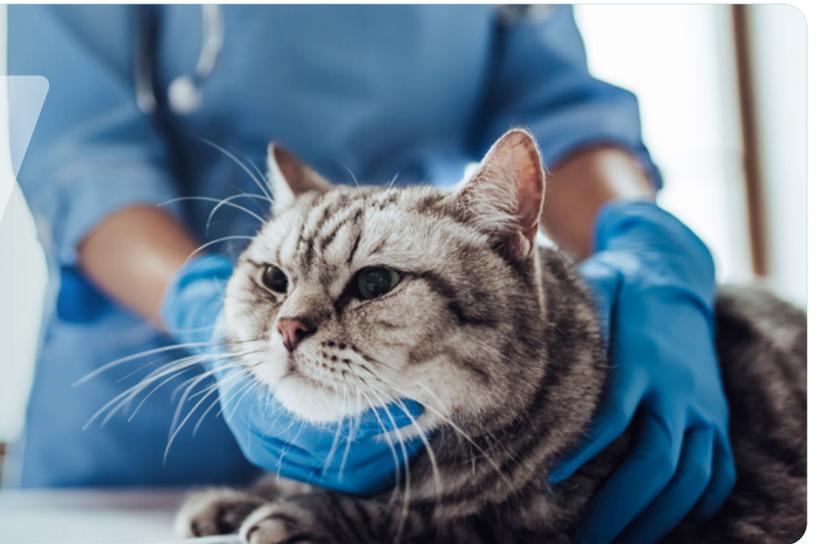


# Veterinary Health

Optimized qPCR/RT-qPCR mixes and molecular reagents for animal diagnostic assays

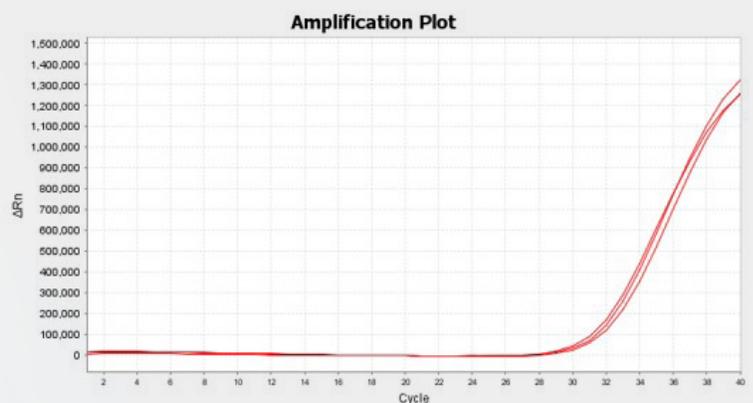


Veterinary medicine has transformed the health and welfare of companion animals worldwide. The global increase of pet ownership has raised awareness of animal health, increasing the demand for veterinary diagnostics for companion animals such as cancer testing, infectious disease, and genetic testing.

Meridian has a range of optimized qPCR and RT-qPCR mixes ideal for veterinary diagnostics. Many of the mixes have been designed for the direct detection of DNA or RNA from crude samples such as blood, saliva, and urine. In addition, there are several ready-to-use mixes that have been formulated for lyophilization or air-drying to create ambient-temperature stable assays. These mixes combine the benefits of inhibitor-tolerance with high-sensitivity to reduce sample processing requirements and increase assay turn-around times.

## Molecular Detection of Influenza A from Crude Saliva

Detection of Influenza A RNA in presence of 20% artificial sputum (UTM) using air-dried Air-Dryable™ 1-Step RT-qPCR Mix (MDX095). The results illustrated the sensitivity of the Air-Dryable™ 1-Step RT-qPCR Mix, being able to detect very low levels of Influenza A, even in a crude sample.



## Molecular Reagents

### Optimized Master Mixes

#### **MDX030** *Low DNA qPCR Mix*

Designed for multiplex assays detecting microbial or fungal DNA. Incorporates a heat-activated DNA polymerase with low residual DNA content.

#### **MDX020** *Fast qPCR Mix*

Ideal for multiplex assays requiring sensitive detection of DNA targets in inhibitor-rich samples. Contains an antibody-mediated hot-start polymerase.

#### **MDX032** *Fast 1-Step RT-qPCR Mix*

Ideal for multiplex assays requiring sensitive detection of DNA and RNA targets. Contains an antibody-mediated hot-start polymerase, MMLV-RT and separate RNase inhibitor.

#### **MDX013** *Inhibitor-Tolerant qPCR Mix*

Designed for amplification direct from crude lysates or inhibitor-rich samples such as urine, cerebral spinal fluid (CSF), blood as well as plants. Contains an antibody-mediated hot-start polymerase.

#### **MDX016** *Inhibitor-Tolerant RT-qPCR Mix, 4x*

All-in-one, 4x master mix designed for qPCR from crude samples such as sputum, stool and saliva. No sample extraction required.

#### **MDX082** *Air-Dryable™ qPCR Mix, 4x*

Ready-to-use qPCR mix ideal for oven or air-drying technologies.

#### **MDX095** *Air-Dryable™ RT-qPCR Mix, 4x*

Ready-to-use RT-qPCR Mix ideal for oven or air-drying technologies.

#### **MDX092** *Air-Dryable™ Direct DNA qPCR Blood, 4x*

Inhibitor-tolerant qPCR mix ideal for oven or air-drying technologies. Can be used for direct detection using whole blood, serum or plasma samples.

#### **MDX021** *Lyo-Ready™ qPCR Mix*

Ready-to-use, glycerol-free qPCR master mix formulated with a specialized blend of excipients for lyophilization into beads or pellets.

#### **MDX024** *Lyo-Ready™ 1-Step RT-qPCR Mix*

Ready-to-use, glycerol-free RT-qPCR master mix formulated with a specialized blend of excipients for lyophilization into beads or pellets.

#### **MDX062** *Lyo-Ready™ 1-Step RT-qPCR Virus Mix*

Ready-to-use, glycerol-free RT-qPCR master mix formulated with a specialized blend of excipients and highly suited for amplification of RNA viruses with a high secondary structure.

#### **MDX097** *Lyo-Ready™ LAMP Mix, 4x*

Ready-to-use, glycerol-free RT-qPCR master mix formulated with a specialized blend of excipients for lyophilization into beads or pellets.

#### **MDX108** *Lyo-Ready™ RT-LAMP 1-Step Mix*

Ready-to-use, glycerol-free RT-qPCR master mix formulated with a specialized blend of excipients for lyophilization into beads or pellets.



## Enzymes

### TAQ POLYMERASES

#### **MDX011** *Glycerol-Free Taq HS 50 U/μL*

Lyophilization-compatible, high concentration (50 U/μL), glycerol free DNA enzyme for automated high-throughput testing (provided as separate antibody, enzyme and dilution buffer).

#### **MDX015** *Aptamer Taq HS (Glycerol-Free)*

A high concentration, lyophilization-compatible Taq DNA polymerase containing a DNA aptamer which binds reversibly to the polymerase. Suitable for developing highly specific, high-throughput assays.

#### **MDX009** *Low DNA Taq HS 5 U/μL*

Heat-activated, thermostable DNA polymerase with low residual DNA content. Ideal for multiplex assays involving amplification of bacterial and fungal DNA.

#### **MDX010** *Low DNA Taq HS 10 U/μL*

Heat-activated, thermostable DNA polymerase with low residual DNA content. Ideal for multiplex assays involving amplification of bacterial and fungal DNA.

#### **MDX001** *Taq DNA Polymerase*

DNA polymerase with optimized buffer system for fast PCR reactions across a range of templates.

#### **MDX008** *Taq DNA HS Polymerase*

Antibody-mediated hot-start DNA polymerase that is ideal for developing multiplex assays requiring sensitive detection of DNA targets in inhibitor-rich samples.

### ISOTHERMAL POLYMERASES

#### **MDX012** *Bst DNA Polymerase*

Stable, heat resistant DNA polymerase optimized for LAMP and contains 5' > 3' DNA polymerase activity and strong strand displacement activity.

#### **MDX018** *High Conc. Glycerol-Free Bst*

Stable, heat resistant DNA polymerase optimized for LAMP and lyophilization-compatible with a concentration of 100 U/μL.

#### **MDX019** *Inhibitor-Tolerant Bst Buffer*

Optimized buffer for MDX012 and MDX018 that increases the amplification speed, sensitivity, and tolerance to salt and other inhibitors found in clinical samples and transport media.

### REVERSE TRANSCRIPTASES

#### **MDX044** *MMLV-RT*

MMLV-RT suitable for generating first strand cDNA of up to 9 kb. Suitable for multiplex reactions.

#### **MDX043** *RNase-Tolerant MMLV-RT*

Mixture of MMLV-RT and RNase inhibitor that maintains activity up to 50° C. Suitable for detecting very low levels of RNA in inhibitor-rich samples.

## Companion Reagents

#### **MDX004** *Tissue Extract-PCR Buffers*

Lysis and neutralization buffers optimized for use with *Taq HS DNA Polymerase (MDX008)* to perform PCR direct from crude lysate.

#### **MDX033** *Fast qPCR Buffer, 4x*

Optimized for use with *Taq HS DNA Polymerase (MDX008)*.

#### **MDX034** *1-Step RT-qPCR Buffer, 4x*

Optimized for use with *Taq HS DNA Polymerase (MDX008)* and *RNase-Tolerant MMLV-RT (MDX043)*.

#### **MDX056** *RNase Inhibitor*

Inhibits a broad spectrum of eukaryotic RNases, including RNases A, B and C to control for contaminants in RT-PCR assays.

#### **MDX014** *Taq HS Antibody*

A mix of anti-Taq antibodies designed to inhibit Taq DNA polymerase activity at room temperature. For use in hot-start PCR.



# Quick Molecular Product Selection Chart

Product Name	Cat#	Master Mix	Hot-Start	DNA Detection	RNA Detection	Multiplex Reactions	High-Sensitivity (Low copy target)	Inhibitor-Rich Samples	Microbial & Fungal Disease Testing	Ambient-temperature Stable Assays
Low DNA qPCR Mix	MDX030	✓	Chemical	✓		✓	✓		✓	
Fast qPCR Mix	MDX020	✓	Antibody	✓		✓	✓			
Fast 1-Step RT-qPCR Mix	MDX032	✓	Antibody	✓	✓	✓	✓			
Inhibitor-Tolerant qPCR Mix	MDX013	✓	Antibody	✓		✓		✓		
Air-Dryable™ qPCR Mix, 4x	MDX082	✓	Antibody	✓		✓	✓			✓
Air-Dryable™ RT-qPCR Mix, 4x	MDX095	✓	Antibody	✓	✓	✓	✓	✓		✓
Inhibitor-Tolerant RT-qPCR Mix	MDX016	✓	Antibody	✓	✓	✓	✓	✓	✓	
Lyo-Ready™ qPCR Mix	MDX021	✓	Antibody	✓		✓				✓
Lyo-Ready™ 1-Step RT-qPCR Mix	MDX024	✓	Antibody	✓	✓	✓				✓
Lyo-Ready™ 1-Step RT-qPCR Virus Mix	MDX062	✓	Antibody	✓	✓	✓				✓
Lyo-Ready™ RT-LAMP 1-Step Mix	MDX108	✓	No	✓	✓	✓	✓	✓		✓
Lyo-Ready™ LAMP Mix	MDX097	✓	No	✓		✓	✓	✓		✓
Glycerol-Free Taq HS	MDX011		Antibody	✓			✓			✓
Aptamer Taq HS (Glycol-Free)	MDX015		Aptamer	✓		✓	✓	✓	✓	✓
Low DNA Taq HS	MDX009 & MDX010		Chemical	✓		✓			✓	
Taq DNA Polymerase	MDX001		No	✓		✓				
Taq DNA HS Polymerase	MDX008		Antibody	✓		✓	✓	✓		

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