









# Molecular Dx Reagents

Enzymes, optimized mixes and other reagents for human, animal, plant and environmental diagnostic applications

















## APPLICATION KEY









-  Food Testing
-  Water Testing
-  Environmental
-  Blood Banking
-  Genetic Screening
-  Human Diagnostics
-  Vet Health
-  DNA Barcoding

As a primary manufacturer of specialized molecular biology products, Meridian offers solutions to a wide range of industries to help identify and analyze the genetic makeup at a molecular level. Applications for these molecular reagents include human diagnostics, crop research, food testing, animal health, pathogen detection, biomarker and drug discovery.






## Optimized Mixes

PRODUCT	APPLICATION	CAT NO.	VOLUME	REACTIONS
<b>qPCR (DNA Template) Hot-Start Mastermixes</b>				
<b>Low DNA qPCR Mix</b> Ideal for microbial and fungal DNA detection assays	     	MDX030	5 mL 100 mL	500 Rxn 10,000 Rxn
<b>Fast qPCR Mix</b> Suitable for fast high-multiplex qPCR assays	   	MDX020	5 mL 100 mL	500 Rxn 10,000 Rxn
<b>Lyo-Ready qPCR Mix</b> Ready-to-use, glycerol-free qPCR mastermix formulated with a specialized blend of excipients for lyophilization into beads or pellets	   	MDX021	5 mL 100 mL	500 Rxn 10,000 Rxn
























## Optimized Mixes

PRODUCT	APPLICATION	CAT NO.	VOLUME	REACTIONS
<b>qPCR (DNA Template) Hot-Start Mastermixes continued</b>				
<b>Lyo-Ready qPCR Mix 2.6x</b> Glycerol-free formulation optimized for lyophilization and ambient temperature stabilization of qPCR assays (2.6x concentration)		MDX023	4 mL 100 mL	500 Rxn 12,500 Rxn
<b>Hi-throughput dUTP qPCR Mix</b> Optimized formulation for efficient dUTP incorporation to remove background PCR product contamination		MDX031	5 mL 100 mL	500 Rxn 10,000 Rxn
<b>Inhibitor-Tolerant qPCR Mix</b> Hot-start qPCR mix developed for direct amplification from human and animal blood samples		MDX013	5 mL 100 mL	500 Rxn 10,000 Rxn
<b>RT-qPCR (RNA Template) Hot-Start Mastermixes</b>				
<b>Fast 1-Step RT-qPCR Mix</b> RT-qPCR mix formulated for fast, automated, high-throughput systems		MDX032	10 mL 100 mL	1,000 Rxn 10,000 Rxn
<b>Lyo-Ready 1-Step RT-qPCR Mix</b> Ready-to-use, glycerol-free RT-qPCR mastermix formulated with a specialized blend of excipients for lyophilization into beads or pellets		MDX024	10 mL 100 mL	1,000 Rxn 10,000 Rxn
<b>Lyo-Ready 1-Step RT-qPCR Virus Mix</b> Ready-to-use, glycerol-free RT-qPCR mastermix formulated with a specialized blend of excipients and highly suited for amplification of RNA viruses		MDX062	10 mL 100 mL	1,000 Rxn 10,000 Rxn
<b>Low LOD 1-Step RT-qPCR Mix</b> Suitable for detecting RNA and DNA viruses at very low levels for applications such as blood bank or transplant viral testing		MDX025	10 mL 100 mL	1,000 Rxn 10,000 Rxn
<b>Next-Generation Sequencing</b>				
<b>NGS Library Quantification</b> qPCR-based assay for the quantification of only adapter-ligated library molecules		MDX039	1 Kit	500 Rxn

## Polymerases

PRODUCT	APPLICATION	CAT NO.	VOLUME	REACTIONS
<b>DNA Polymerases</b>				
<b>Taq DNA Polymerase</b> DNA Polymerase provided with optimized buffer system for fast PCR reactions across a range of templates		MDX001	100 µL 10 mL	500 Units 50,000 Units
<b>Taq HS DNA Polymerase</b> Antibody-mediated hot-start enzyme ideal for fast multiplex reactions. Robust performance with low-copy number targets even in the presence of PCR inhibitors. (*Enzyme only)		MDX008	100 µL 10 mL 10 mL	500 Units 50,000 Units 50,000 Units*
<b>Glycerol-Free Taq HS 50 U/µL</b> Lyophilization-compatible, high concentration (50 U/µL), glycerol free DNA enzyme for automated high-throughput testing (provided as separate antibody, enzyme and dilution buffer)		MDX011	20 µL 500 µL	1,000 Units 25,000 Units
<b>Low DNA Taq HS 5 U/µL</b> Heat-activated, thermostable DNA polymerase suited to amplification of bacterial and fungal DNA		MDX009	100 µL 10 mL	500 Units 50,000 Units
<b>Low DNA Taq HS 10 U/µL</b> Heat-activated, thermostable DNA polymerase suited to amplification of bacterial and fungal DNA		MDX010	50 µL 5 mL	500 Units 50,000 Units



PRODUCT	APPLICATION	CAT NO.	VOLUME	REACTIONS
<b>High-Fidelity Polymerases</b>				
<b>High-Fidelity Pfu</b> 3' - 5' proofreading exonuclease activity with an error rate of $3.0 \times 10^{-6}$ and generates blunt-ended amplicons up to 5 kb in length	 	MDX003	200 $\mu$ L 10 mL	500 Units 25,000 Units
<b>Isothermal Polymerases</b>				
<b>Glycerol-Free Bst</b> Lyophilization-compatible DNA polymerase for isothermal applications	     	MDX017	1 mL 20 mL	NA NA
<b>Reverse Transcriptase</b>				
<b>Lyo-compatible MMLV-RT</b> High-concentration MMLV-RT suitable for incorporation into lyophilized RT-PCR assays	    	MDX042	8 $\mu$ L 80 $\mu$ L	1,000 Rxn 10,000 Rxn
<b>RNase-Tolerant MMLV-RT</b> Mixture of MMLV-RT and RNase inhibitor ideal for RT-qPCR assays	    	MDX043	200 $\mu$ L 2 mL	1,000 Rxn 10,000 Rxn
<b>MMLV-RT</b> MMLV-RT suitable for generating first strand cDNA of up to 9 kb	    	MDX044	200 $\mu$ L 2 mL	1,000 Rxn 10,000 Rxn

## Components

PRODUCT	CAT NO.	VOLUME	REACTIONS
<b>NGS Enzymes</b>			
<b>NGS ER Enzyme Mix</b> A mix that processes both 3' and 5' overhangs generating product that is 5' phosphorylated with 3' A overhang	MDX040	6 mL	1,000 Rxn
<b>NGS Ligase</b> Enzyme that catalyzes the ligation of adaptors to 3' A overhangs	MDX037	2 mL	1,000 Rxn
<b>Buffers</b>			
<b>NGS High-Fidelity Pfu Buffer, 10x</b> Optimized for use with High-Fidelity Pfu (Cat# MDX003)	MDX038	2 mL	1,000 Rxn
<b>NGS End-Repair Buffer, 5x</b> Optimized for use with NGS ER Enzyme Mix (Cat# MDX040)	MDX035	10 mL	1,000 Rxn
<b>NGS Ligase Buffer, 5x</b> Optimized for use with NGS Ligase (Cat# MDX037)	MDX036	3 mL	1,000 Rxn
<b>Taq PCR Buffer, 5x</b> Optimized for use with Taq DNA Polymerase (Cat# MDX001) and Taq HS DNA Polymerase (Cat# MDX008)	MDX002	100 mL	25,000 Rxn
<b>Tissue Extract-PCR Buffers</b> Lysis and neutralization buffer optimized for use with Taq HS DNA Polymerase (Cat# MDX008) to perform PCR direct from crude lysate	MDX004	1 Kit	1,000 Rxn
<b>Fast qPCR Buffer, 4x</b> Optimized for use with Taq HS DNA Polymerase (Cat# MDX008)	MDX033	50 mL	10,000 Rxn
<b>1-Step RT-qPCR Buffer, 4x</b> Optimized for use with Taq HS DNA Polymerase (Cat# MDX008) and RNase-Tolerant MMLV-RT (Cat# MDX043)	MDX034	50 mL	10,000 Rxn
<b>Lyo-Ready qPCR Buffer, 2.5x</b> Optimized for use with Glycerol-Free Taq HS (Cat# MDX011)	MDX022	4 mL 100 mL	1,000 Rxn 12,500 Rxn

PRODUCT	CAT NO.	VOLUME	REACTIONS
<b>General Reagents</b>			
<b>Uracil DNA Glycosylase (UDG)*</b> Enzyme that efficiently hydrolyzes uracil from ssDNA or dsDNA. Endonuclease, exonuclease, nickase and RNase-free	MDX054	10 mL	10,000 Units
<b>Proteinase K Solution</b> RNase and DNase free, ideal for removing endogenous nucleases when purifying native DNA or RNA	MDX055	25 mL	500 mg
<b>RNase Inhibitor</b> Inhibits a broad spectrum of eukaryotic RNases, including RNases A, B and C to control for contaminants in RT-PCR assays	MDX056	250 µL	10,000 Units
		2.5 mL	100,000 Units
<b>Taq HS Antibody</b> A monoclonal antibody to Taq DNA polymerase for use in hot-start PCR	MDX014	250 µL	25,000 Units

## qPCR Extraction Controls

Internal control designed to closely mimic test samples. Can be used to validate the extraction step and monitor any co-purification of PCR inhibitors. Controls are available with different dyes to fit with existing protocols.

<b>qPCR Extraction Control RED (Quasar® 670)</b>	MDX026	10 mL	2,000 Rxn
<b>qPCR Extraction Control ORANGE (Cal Fluor® 560)</b>	MDX027	10 mL	2,000 Rxn
<b>RT-qPCR Extraction Control RED (Quasar® 670)</b>	MDX028	1 mL	500 Rxn
<b>RT-qPCR Extraction Control ORANGE (Cal Fluor® 560)</b>	MDX029	1 mL	500 Rxn

## Sequencing Grade dNTPS

Ultra-pure (>99% by HPLC) dNTPs supplied as lithium salts. Free of PCR inhibitors, DNase and RNase.

<b>dNTP Set, 100mM</b>	MDX050	4 x 250 µL
		4 x 50 mL
<b>dNTP Mix, 100mM</b>	MDX051	500 µL
		50 mL
		100 mL
		1L
<b>dUTP Mix, 100mM</b>	MDX058	50 mL
<b>dUTP, 100mM</b>	MDX059	50 mL
<b>dATP, 100mM</b>	MDX046	50 mL
<b>dCTP, 100mM</b>	MDX047	50 mL
<b>dGTP, 100mM</b>	MDX048	50 mL
<b>dTTP, 100mM</b>	MDX049	50 mL

\* Uracil DNA Glycosylase (MDX054) is not available in the US

## Ordering information:

**USA**  
E: info@meridianlifescience.com  
Toll free: +1 800 327 6299

**Germany**  
E: info.de@bioline.com  
Tel: +49 (0)3371 60222 00

美国迈迪安生命科学公司  
电子邮件: vivian.li@meridianlifescience.com  
电话: +86-159-1103-0750

**UK**  
E: info.uk@bioline.com  
Tel: +44 (0)20 8830 5300

**France**  
E: info.fr@bioline.com  
Tel: +33 (0)1 42 56 04 40

**Australia**  
E: info.au@bioline.com  
Tel: +61 (0)2 9209 4180

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