

Lyo-Ready™ LAMP Mix, 4x

MDX097

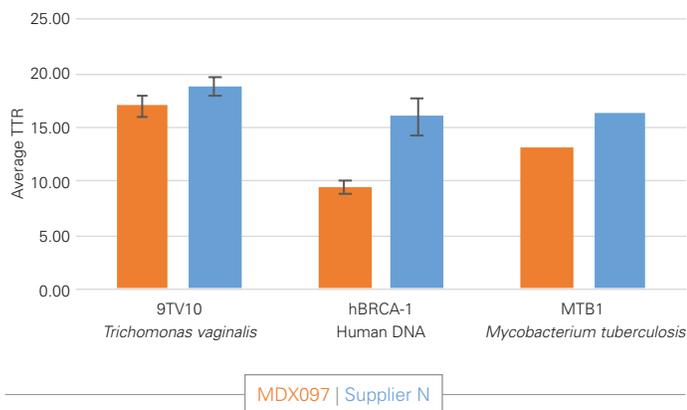
Over the past decade, loop-mediated isothermal amplification (LAMP) technology has played an increasingly important role in point-of-care (POC) diagnostics. It offers several advantages over qPCR and other amplification techniques in terms of sample-to-answer time, sensitivity, specificity, cost, robustness, and compatibility with battery powered devices, making it ideal for field-deployable diagnostics in resource-limited settings. LAMP based assays have been used for numerous applications including the detection of pathogens such as salmonella and malaria, genetically modified crop contamination and in forensics to specifically detect human DNA.

A major factor limiting the accessibility of POC testing in resource-limited settings is cold chain management which is required to preserve the integrity of the assay reagents. Meridian's new Lyo-Ready™ LAMP Mix has been designed to overcome this challenge. The 4x master mix is formulated with excipients optimized for freeze-drying to create ambient-temperature stable LAMP assays that have an extended shelf-life and an increased flexibility in patient sample volume. The highly stable freeze-dried format allows for very fast rehydration and reactivation of the enzyme preparation, without impacting its performance post rehydration.

- ✓ Ideal for POC diagnostic platforms or automated high-throughput instruments
- ✓ Optimized for Loop-Mediated Isothermal DNA Amplification (LAMP)
- ✓ Concentrated 4x master mix
- ✓ Contains all the required excipients for subsequent lyophilization

PRODUCT	CAT NO.	VOLUME	REACTIONS
Lyo-Ready™ LAMP Mix	MDX097	5 mL	800 Rxn
		50 mL	8,000 Rxn

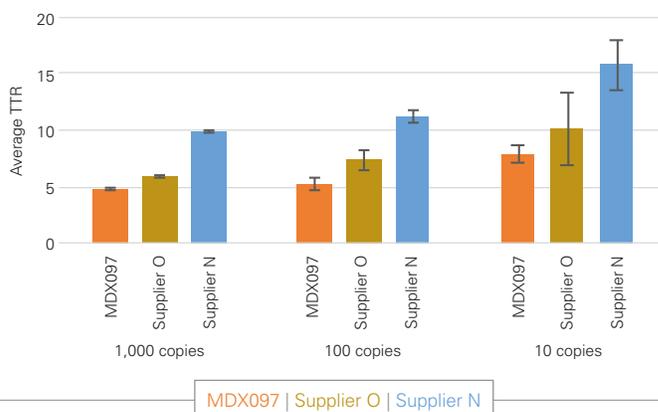
Fast Polymerization for Quick Sample-to-Answer Time



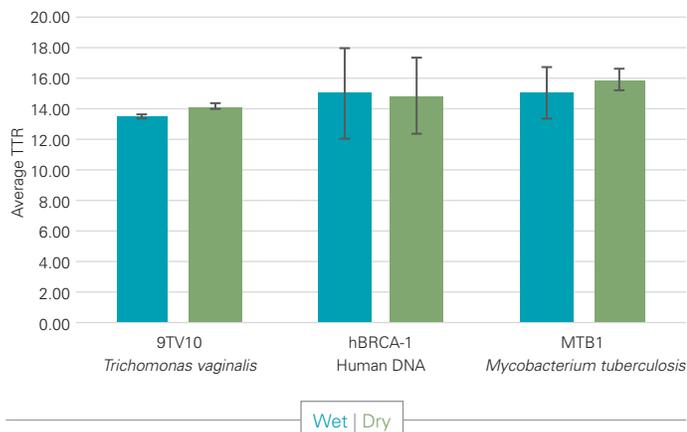
The average time-to-result (TTR) for Lyo-Ready™ LAMP Mix (orange) and a mix from supplier N (blue) were compared for three genes, 9TV10 from *Trichomonas Vaginalis* (100 copies), hBRCA1 from human genomic DNA (200 copies) and MTB1 from *Mycobacterium Tuberculosis* (1,000 copies). The results demonstrate the faster speed of Lyo-Ready LAMP Mix, with earlier TTR values when compared to supplier N. Reactions were incubated at 65°C for 60 min and TTR were measured at 1:10 of end fluorescence.

Better Sensitivity with Lower Sample Input

The average time to results (TTR) for Lyo-Ready LAMP Mix (orange) and a mix from supplier O (tan) and supplier N (blue) were compared using a 10-fold serial dilution for the of BRCA1 gene (1,000, 100 and 10 copies). The relative concentrations of LAMP oligos were optimized to obtain earlier TTR compared to other experiments. The results demonstrate the increased sensitivity and greater reproducibility of the Lyo-Ready LAMP Mix, with earlier TTR values and a lower SD when compared to other suppliers. Reactions were incubated at 65°C for 60 min and TTR were measured at 1:10 of end fluorescence.



Lyophilized mix maintains its shelf-life



LAMP reactions were performed using the fresh Lyo-Ready LAMP Mix and compared against lyophilized Lyo-Ready LAMP Mix, stored at 37°C for 3 months. The results show that the lyophilization process does not affect the stability of the Lyo-Ready LAMP Mix and with a temperature of 37°C we can extrapolate the stability of the lyophilized mix for up to 1 year. Reactions were incubated at 65°C for 60 min and TTR values were measured at 1:10 of end fluorescence.

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