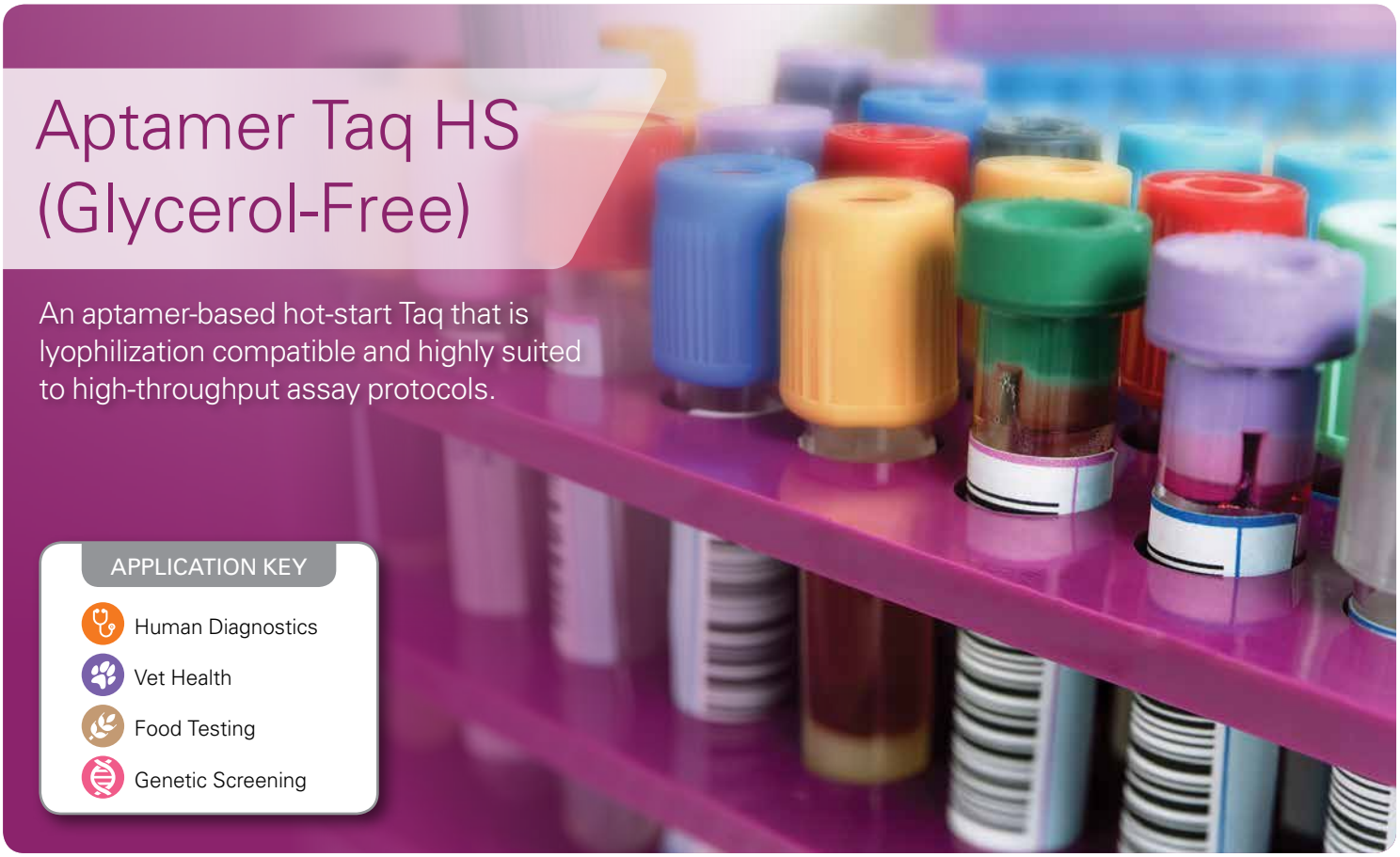
Aptamer Taq HS (Glycerol-Free)

An aptamer-based hot-start Taq that is lyophilization compatible and highly suited to high-throughput assay protocols.



APPLICATION KEY

- Human Diagnostics
- Vet Health
- Food Testing
- Genetic Screening

Aptamer Taq HS (glycerol free) is a high concentration, lyophilization-compatible Taq DNA polymerase containing a DNA aptamer which binds reversibly to the polymerase, inhibiting its activity at ambient temperatures before and after reaction completion. Traditional hot-start methods that are antibody or chemically-mediated require a long activation time at very high temperatures. In contrast, aptamers disassociate from the enzyme (e.g. activate) at relatively lower temperatures (45°C), enabling faster reaction protocols and better assay specificity. Aptamer Taq HS (glycerol free) is the ideal polymerase for challenging high-throughput assays where faster reaction protocols and higher specificity are required.

Aptamer Taq HS (glycerol free)

- Highly suited to multiplex, high-throughput viral detection assays requiring high specificity
- No activation step - reduce an assay run time by up to 15 minutes
- Convenient room temperature reaction set-up
- High enzyme concentration (50 U/µL) compatible with lyophilization procotols (create dry amplification mixes that are stable at room temperature)

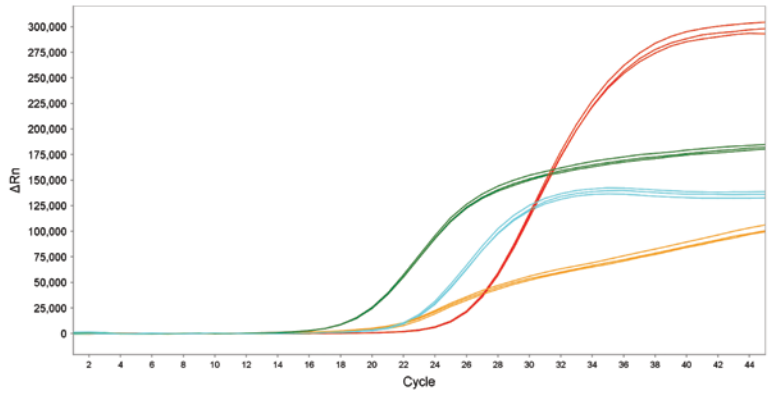
PRODUCT	CAT NO.	VOLUME	REACTIONS
Aptamer Taq HS (glycerol free) (50 U/µL)	MDX015	20 µL	50 mL
		500 µL	500 mL

Product Highlights

Suitable for Multiplex Viral Detection Assays

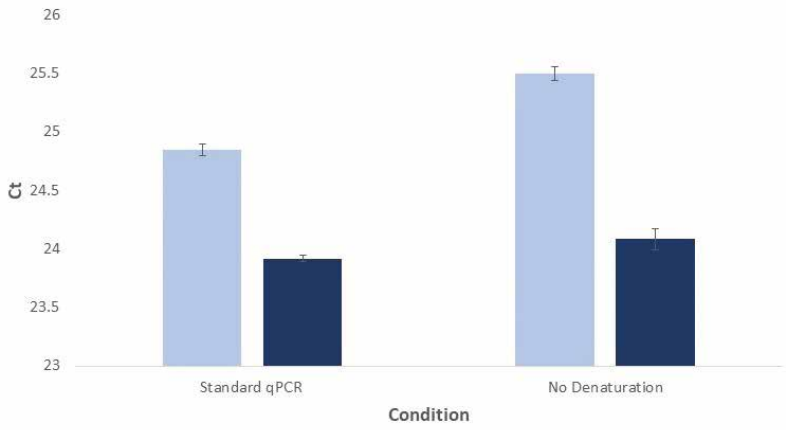
Four viral sequences, two DNA (Cytomegalovirus (green line) and Adenovirus (blue line)) and two RNA (Rotavirus (orange line) and Norovirus (red line)) were amplified using Aptamer Taq HS (glycerol free) (MDX015) using Lyo-Ready qPCR Buffer (MDX022) and RNase-Tolerant MMLV-RT (MDX043) in quadruplex qPCR probe assays. The data demonstrates both DNA and RNA are amplified with equal sensitivity using Aptamer Taq HS (glycerol free).

**For lyophilization we recommend the use of Lyo-compatible MMLV-RT (MDX042)*



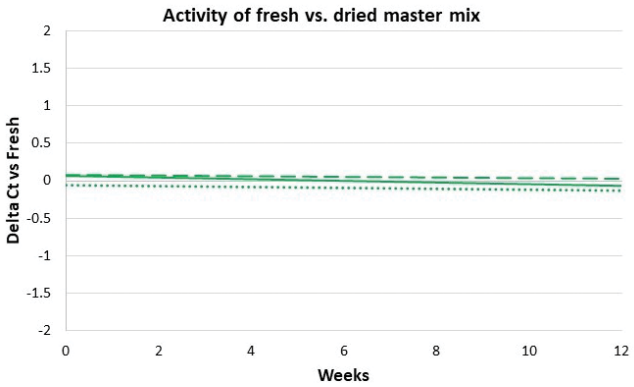
Fast Hot-Start

Comparison of qPCR performance of Aptamer Taq HS (glycerol free) vs an antibody hot-start Taq. PCR reactions were run with and without an initial 2 minute high temperature activation step for both polymerases and Ct values were compared. No difference was observed in the Ct values between the reactions for the Aptamer Taq HS (glycerol free), indicating that an activation step does not have an effect on polymerase performance. In contrast, the antibody hot-start Taq had a lower Ct value in the reaction with a 2 min high-temperature denaturation step indicating a improvement in performance over the reaction with no activation step. Overall, the data illustrates the immediate activation of the Aptamer Taq HS (glycerol free)S allowing for faster hot-start and faster reaction protocols.



Lyophilization Compatible Enzyme

Comparison of qPCR performance of Aptamer Taq HS (glycerol free) from a freshly prepared master mix containing primers and probes against a previously dried-down format (stored for 8 weeks at room temperature). After rehydrating and adding sample material, Ct values were compared for three housekeeping genes. The results illustrate that Aptamer Taq HS (glycerol free) is stable throughout the lyophilization process and subsequent storage, showing no difference in performance from the fresh master mix.



Ordering information:

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

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

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

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

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

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

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