Taq HS DNA Polymerase
Product Handling Guide

Shipping:	On Dry/Blue Ice
Catalog numbers:	MDX008
Batch No.:	See vial
Concentration:	5 U/µL

Store at –20 °C

Storage and stability:
Taq HS DNA Polymerase is shipped on dry/blue ice. On arrival store at -20 °C for optimum stability. Repeated freeze/thaw cycles should be avoided. Thawing during transportation does not affect the product performance. Solutions should be mixed/equilibrated after each thawing to avoid phasing.

Expiry:
When stored under the recommended conditions and handled correctly, full activity of the kit is retained until the expiry date on the outer box label.

Safety precautions:
Read and understand the SDS (Safety Data Sheets) before handling the reagents. Hardcopies of the SDSs will be provided with the first shipment, thereafter they will be available upon request.

Quality control:
Bioline operates under ISO 13485 Management System. The Taq HS DNA Polymerase and its components are extensively tested for activity, processivity, efficiency, heat activation, sensitivity, absence of nuclease contamination and absence of nucleic acid contamination.

Notes:
This reagent has been manufactured under 13485 Quality Management System and is suitable for further manufacturing use as an IVD component.

Description

Taq HS DNA Polymerase 5 U/µL is a high performance PCR product containing a hot-start antibody and separate 5x Taq Reaction Buffer containing dNTPs, $MgCl_2$ and enhancers at optimal concentrations, removing the need for optimization and providing superior amplification across a range of templates.

Kit components

Table 1

Component
Taq HS DNA Polymerase
Taq Reaction Buffer, 5x

Users Guidelines

The optimal conditions will vary from reaction to reaction and are dependent on the template/primers used.

The Taq Reaction Buffer, 5x comprises of 5 mM dNTPs, 15 mM $MgCl_2$, stabilizers and enhancers. The concentration of each component has been extensively optimized, additional PCR enhancers are not recommended.

Forward and reverse primers are generally used at the final concentration of 0.2-0.6 µM each. As a starting point, we recommend using 0.4 µM final concentration (*i.e.* 4 pmol of each primer per 20 µL reaction volume).

For DNA templates with low structural complexity, such as plasmid DNA, we recommend using 50 pg - 10 ng DNA per 50 µL reaction volume. For eukaryotic genomic DNA, we recommend a starting amount of 200 ng DNA per 50 µL reaction, this can be varied between 5 ng - 500 ng.

PCR reaction setup

Prepare a master mix of Taq HS DNA Polymerase and assay-specific primers (see recommended composition in Table 2).

Table 2

Reagent	Volume	Final Concentration
Taq Reaction Buffer, 5x	4 µL	1x
Template	As required	As required
20 µM Forward Primer	0.4 µL	400 nM
20 µM Reverse Primer	0.4 µL	400 nM
Taq HS DNA Polymerase	0.4 µL	0.1 U/µL
Water (ddH_2O)	≤ 20 µL	

PCR amplification

The PCR conditions in Table 3 are suitable for amplicons of up to 1 kb.

Table 3

Step	Temperature	Time	Cycles
Initial denaturation	95 °C	1 min	1
Denaturation	95 °C	15 s	25-35
Annealing	User determined	15 s	
Extension	72 °C	10 s	

For multiplex PCR we suggest using 55 °C as a starting annealing temperature.

If further optimization is required we recommend using a temperature gradient to determine the optimal annealing temperature needed for the multiplex PCR. Since multiplex PCR generally requires a longer extension step, we suggest starting with a minimum of 90 s and increasing it if required.

Technical Support

For any technical enquiries, please contact our Technical Support team via email at: mbi.tech@meridianlifescience.com

Bioline Reagents Ltd
UNITED KINGDOM
Tel: +44 (0)20 8830 5300
Fax: +44 (0)20 8452 2822

Meridian Life Science Inc.
USA
Tel: +1 901 382 8716
Fax: +1 901 382 0027

Bioline GmbH
GERMANY
Tel: +49 (0)337 168 1229
Fax: +49 (0)3371 68 1244

Bioline (Aust) Pty. Ltd
AUSTRALIA
Tel: +61 (0)2 9209 4180
Fax: +61 (0)2 9209 4763

Bioline France
FRANCE
Tel: +33 (0)1 42 56 04 40
Fax: +33 (0)9 70 06 62 10

Website: www.meridianlifescience.com/molecular-dx-reagents **email**: info@meridianlifescience.com