Hot Start Taq Polymerase, 2x Mix

with HS Buffer I

Cat.No.	Size Reactions	HS Taq, 2X Master Mix 1	Final $MgCl_2$ Conc.
AO230303	500	2X HS Buffer I Mix	1.5mM
AO230304	1,000	2X HS Buffer I Mix	1.5mM
AO230306	2,500	2X HS Buffer I Mix	1.5mM
AO230307	5,000	2X HS Buffer I Mix	1.5mM
AO230308	10,000	2X HS Buffer I Mix	1.5mM
AO230309	20,000	2X HS Buffer I Mix	1.5mM

Store at -20°C. *For in-vitro laboratory use only*

General Description

AS ONE HS Taq Polymerase, 2X Mix is a ready-to-use 2.0X master mix. Simply add primers, template, and water to successfully carry out primer extensions and other molecular biology applications.

AS ONE HS Taq Polymerase Mix, the NH_4^+ buffer system, dNTPs and magnesium chloride are present in HS Taq Pol Mix with HS Buffer I. Each reaction requires 25 µL of the 2.0X reaction mix. Simply add primers, template and water to a total reaction volume of 50 µL.

AS ONE HS Taq Polymerase Mix is a modified form of B-Bridge *Taq* DNA Polymerase, which is activated by heat treatment. A chemical moiety is attached to the enzyme at the active site, which renders the enzyme inactive at room temperature. Thus, during setup and the first ramp of thermal cycling, the enzyme is not active and misprimed primers are not extended. The result is higher specificity and greater yields when compared to standard DNA polymerases.

AS ONE HS Taq Polymerase Mix offers several advantages. Set up time is significantly reduced. The chance of contaminating component stocks is eliminated. Reduction of reagent handling steps leads to better reproducibility. Standard tests can be set up with the confidence that results will be consistent every time.

Composition of HS Taq Pol, 2x Mix

Tris-HCl pH 8.5, $(NH_4)_2S0_4$, 3.0mM $MgCl_2$, 0.2% Tween 20®, 0.4 mM dNTPs, 0.2 units/µL HS Taq DNA Polymerase Stabilizer

Suggested Protocol using HS Taq Pol, 2x Mix

This protocol serves as a guideline only. Optimal reaction conditions may vary and must be individually determined.

- Set up reaction mixtures in an area separate from that used for DNA preparation or product analysis.
- The table below shows the reaction set up for a final volume of 50 µL.
- **Important:** Mix the solutions completely before use to avoid localized concentrations of salts.

1. Set up each reaction as follows:

Component	Vol./Reaction	Final Conc.
HS Taq Master Mix *with HS Bufffer I*	25 µL	1X
Primer A	Variable	0.1–1.0 µM
Primer B	Variable	0.1–1.0 µM
Distilled Water	Variable	- - - -
Template DNA	Variable	Variable
TOTAL volume	50 µL	- - - -

2. Mix gently by pipetting the solution up and down a few times.
3. Program the thermal cycler according to the manufacturer´s instructions.
4. **Each program must start with an initial heat activation step at 95°C for 15 minutes.**

   For maximum yield and specificity, temperatures and cycling times should be optimized for each new template target or primer pair.

A typical thermal cycling program is shown below:

95°C for 15 min.		*Activate HS Taq Polymerase*
30-40 cycles:		
95°C	30 sec	*Denature template*
45-65°C	30 sec	*Anneal primer*
72°C	1-5 min	*Elongation*
72°C for 5 min		*Elongation*

5. Place the tubes in the thermal cycler and start the reaction.

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