Azura 2x Taq Mix

Catalog No.	Pack Size and Concentration	Components and Volume
AZ-1302	200 x 50 µl reactions, 2x	2X Taq Mix - 4 x 1.25ml
AZ-1310	1000 x 50 µl reactions, 2x	2X Taq Mix - 20 x 1.25ml

Description

Azura 2x Taq Mix is a ready-to-use single tube formulation optimized for convenience and reduced pipetting steps. The highly advanced Azura 2x Taq Mix chemistry allows fast cycling conditions to be used with greater efficiency, reproducibility and through-put. In addition, the ready-to-use mix is also available with inert red and yellow dyes which allow samples to be loaded directly onto agarose gels without additional gel loading buffers. Azura 2x Taq Red Mix is sufficiently dense to sink to the bottom of the agarose gel wells.

- New-generation PCR formulation including enhancers for maximum PCR efficiency, sensitivity and reaction speed.
- Robust PCR performance across a wide range of DNA templates including genomic DNA and GC-rich and AT-rich sequences.
- Supplied as a ready-to-use 2x master-mix for maximum convenience and minimal liquid handling.
- High-yields with amplicons up to 5 Kb with standard or fast cycling.

Storage

Azura 2x Taq Mix is shipped on blue or dry ice and should be stored at –20°C upon receipt. Excessive freeze/thawing should be avoided. When stored as specified, Azura 2x Taq Mix is stable for 12 months from date of receipt. The Mix may also be stored at 4°C for 1 month.

Important Guidelines

Azura 2x Taq Mix: The 2x Mix is comprised of Azura Taq DNA Polymerase, 2mM dNTPs, 6mM $MgCl_2$, and PCR enhancers for maximum efficiency, sensitivity and success with difficult amplicons. We do not suggest the use of additional PCR enhancers.

Template: For complex genomic DNA, we suggest the use of 5ng - 500ng per reaction; For cDNA or plasmid DNA, please use < 100ng per reaction.

Primers: Primers should have a predicted melting temperature of around 60°C, using default Primer 3 settings (http://frodo.wi.mit.edu/primer3/). The final primer concentration in the reaction should be between 0.2µM and 0.6µM.

Annealing: We recommend performing a temperature gradient to determine the optimal annealing temperature. Alternatively, 55°C can be used as a starting point. For optimization, increase in 2°C increments. For example, if non-specific products are present or smearing is visible, a higher annealing temperature is required.

Extension: Optimal extension is achieved at 72°C. The optimal extension time is dependent on amplicon length and complexity. 15 seconds to 30 seconds per kilobase(Kb) is recommended for amplification from eukaryotic genomic DNA or cDNA up to 2 Kb. For amplicons greater than 2 Kb, we suggest 30 seconds to 60 seconds per Kb.

Reaction setup

1. Prepare a PCR master mix based on following table:

Component	50µl Reaction	Final Concentration/Notes
Azura 2x Taq Mix	25 µl	1x
Forward Primer (10µM)	2.0 µl	400 nM
Reverse Primer (10µM)	2.0 µl	400 nM
Template DNA	<100ng cDNA, <500ng genomic DNA	variable
PCR-grade water	Up to 50 µl final volume	

* For alternative total reaction volumes (eg. 20 µl), scale all components proportionally to maintain final concentrations.

2. PCR cycling:

Cycles	Temperature & Time	Notes
1	95°C, 1 minute	Initial Denaturation
25 - 40	95°C, 15 seconds 55°C to 67°C, 15 seconds 72°C, 15 to 30 seconds per Kb	Denaturation Annealing (determined by user) Extension

Quality Control

Azura 2x Taq Mix is tested extensively for robust activity, processivity, efficiency, heat activation, sensitivity, absence of nuclease contamination and absence of nucleic acid contamination. Azura 2x Taq Mix is manufactured under a comprehensive quality management system, following ISO 9001:2008 standards.

Limitations of Use

This product is intended for research purposes only and is not intended for any animal or human therapeutic use.

Technical Support

For Trouble-shooting and Technical Guidance, please contact us at tech@azuragenomics.com and provide PCR reaction conditions, cycling parameters, amplicon size, and screen grabs (gel images) if possible.