Product Information Sheet

Product Name: 2X SPRINTaq™ High Speed qPCR Mastermix*

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Concentration:

SPRINTaq™ High Speed qPCR MasterMix: 2X

Storage and Handling:

Upon arrival store at -20°C for provided expiration date. Minimize Freeze thaw of MasterMix to avoid loss of performance.

Product Description:

SPRINTaq™ 2X MasterMix:

Supplied at a 2X concentration and contains dATP, dTTP, dCTP, dGTP, and other buffer components and salts including Tris-HCl, MgCl2, and KCl. SPRINTaq™ is a modified version of Empirical's standard Taq DNA Polymerase, and the 2X MasterMix formula has been optimized for use in rapid PCR applications. SPRINTaq™ 2X MasterMix is easy to use, versatile, and provides excellent amplification under rapid conditions, including endpoint PCR, and probe-based qPCR (e.g. taqman-like) applications. Just add template and primers with the MasterMix and the reaction is ready to go.

Protocol:

The following reaction set up and general cycling conditions are recommended but can vary depending on the template and primers being used.

Recommended reaction set-up (20µL reaction):

Component	Volume	Final Concentration
2X SPRINTaq™ High Speed qPCR MasterMix	10 µl	1X
Upstream Primer, 10µM	0.75-3.0 µl	0.5-2.0µM
Downstream Primer, 10µM	0.75-3.0 µl	0.5-2.0µM
DNA Template	X µl	> 100pg
Nuclease Free Water to volume	20 µl	N.A.

Thermal cycling conditions: The following general cycling conditions are recommended will vary greatly depending on the template, primers, as well as thermocycling platform being used. Please note: to achieve rapid PCR of less than 20-30 minutes, it is recommended to amplify targets of < 200 bp in length.

Two-step Amplification (recommended):

Cycling Step	Temperature	Holding Time	Cycles	°Annealing will depend on primer length and composition. Generally, begin ± 3°C of calculated primer T_m
Initial Denaturation	95°C	15 sec - 2min	1	
Denaturation	92-95°C	3 sec - 10 sec	20-45	
Annealing/Extension	Primer T_m ± 3°C	15-25bp/sec		
Final Extension	Primer T_m ± 3°C	0-10min	Optional 1	

Three-step Amplification:

Cycling Step	Temperature	Holding Time	Cycles
Initial Denaturation	95°C	15 sec - 2min	1
Denaturation	92-95°C	3 sec - 10 sec	20-45
Annealing°	Primer T_m ± 3°C	3 sec - 5 sec	
Extension	72°C	~25bp/sec	
Final Extension	72°C	0-10min	Optional 1

***This product is intended for Research Use Only. This product is manufactured under ISO13485:2016 Quality System Requirements and is available for use as a Raw Material for use in IVD applications. Please contact Empirical Bioscience for further details.**

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