

QuestTaq™ PreMix

Cat. Nos. **E2050** (50 Rxns.)
E2051 (200 Rxns.)



Storage: -20°C

Product Information

Features:

- Premixed reagents for one-tube PCR
- Ideal for robust, non-biased amplification of 5mC, 5hmC, and g5hmC modified DNA
- Ideal for real-time, quantitative, and end-point analyses
- Compatible with a range of fluorescent dyes for use in real-time PCR

Description:

QuestTaq™ PreMix is supplied as a convenient 2X concentrated “master mix” containing all the reagents (i.e., dNTPs, MgCl₂, and enhancers) necessary for robust PCR with little or no by-product formation. The QuestTaq™ PreMix has been optimized for the non-biased amplification of cytosine, 5-methylcytosine (5mC), 5-hydroxymethylcytosine (5hmC), and glucosyl-5-hydroxymethylcytosine (g5hmC) containing DNA, ensuring high yield amplification across a wide range of templates. The QuestTaq™ PreMix differs from QuestTaq™ qPCR PreMix (Cat. Nos. E2052 & E2053 from Zymo Research) in that it excludes SYTO® 9 dye from the PreMix solution, making it compatible with real-time and quantitative PCR with fluorescent dyes of the researcher’s choosing.

Product Contents:

	E2050 (50 Rxns.)	E2051 (200 Rxns.)	Conc.	Storage Temp.
QuestTaq™ PreMix*	500 µl	4 x 500 µl	2X	-20°C
DNase/RNase-Free H₂O	1 ml	2 x 1 ml	-	Room Temp.

*2X QuestTaq™ Premix contains QuestTaq™ DNA polymerase, dNTPs, MgCl₂, and reaction buffer.

Storage:

QuestTaq™ PreMix should be stored between -20 °C to -80 °C for maximum performance. Performance is guaranteed for 1 year from the time of receipt.

Enzyme Concentration:

Reaction conditions at 1X (20 µl total volume) will contain 2 units of QuestTaq™ DNA polymerase.

Unit Definition:

One unit (U) enzyme of QuestTaq™ DNA polymerase is defined as the amount of enzyme required for the incorporation of 10 nmol dNTPs into an acid-insoluble form in 30 minutes at 72°C.

Enzyme Property:

QuestTaq™ DNA polymerase has 5'→3' exonuclease activity but does not have 3'→5' exonuclease activity. It leaves A-overhangs and is suitable for TA cloning.

Proposed Reaction Setup:

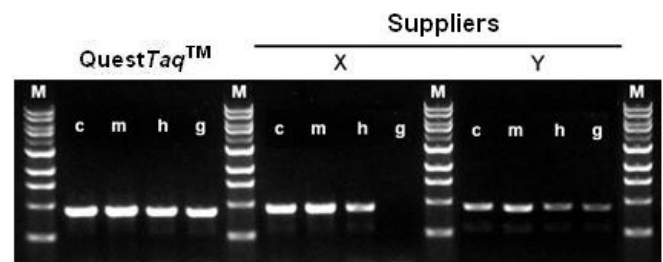
Reagent	Volume	Final concentration
QuestTaq™ PreMix	10 µl	1X
Primers (forward/reverse)	Variable	0.3 to 1 µM each
Template	Variable	< 20 ng/20 µl
ddH ₂ O	to 20 µl	-
Total volume	20 µl	

Note: If required, scale reaction reagent volumes accordingly to accommodate desired primer and/or template concentrations. It is recommended to setup reactions on ice for consistent results between multiple sample replicates.

Suggested Conditions For PCR:

Initial denaturation	95°C	1 min.
Denaturation	94 – 96°C	30 sec.
Annealing	Variable	30 - 40 sec.
Extension	72°C	30 sec. - 1 min. for ≤ 1 kb*
25-30 Cycles		
Final extension	72°C	7 min.
Hold	4°C	> 4 min.

***Note:** Add 15 to 30 seconds to the extension time for each additional kb >1 kb. Make adjustments to the annealing temperature and number of cycles as necessary.



QuestTaq™ polymerase consistently yields robust amplicons from DNA templates having modified/unmodified cytosines. The figure shows the level (intensity) of an ~900 bp product generated from DNA templates using QuestTaq™ PreMix or the polymerases from Suppliers X and Y. In each case, PCR products were separated in a 0.8% (w/v) agarose/TAE/EtBr gel. Lanes correspond to amplicons from template DNA containing: unmodified cytosine (c), 5-methylcytosine (m), 5-hydroxymethylcytosine (h), or glucosyl-5-hydroxymethylcytosine (g). (M) is a 1 kb DNA Marker (Zymo Research, Cat. No. M5006-50).

ZYMO RESEARCH CORP.

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Related Products:

Product Name	Size	Catalog No.
Quest 5-hmC Detection Kit™	25 Preps.	D5410
	50 Preps.	D5411
Quest 5-hmC Detection Kit™-Lite	25 Preps.	D5415
	50 Preps.	D5416
Quest Taq™ PreMix	50 Rxns.	E2050
	200 Rxns.	E2051
Human Matched DNA Set	2 x 5 µg	D5018
Mouse ⁵hmC & ⁵mC DNA Set	4 x 5 µg	D5019
5-Methylcytosine & 5-Hydroxymethylcytosine DNA Standard Set	3 x 2 µg	D5405
DNA Degradase™	500 units	E2016
	2,000 units	E2017
DNA Degradase Plus™	250 units	E2020
	1,000 units	E2021
5-hmC Glucosyltransferase	100 units	E2026
	200 units	E2027
5-Hydroxymethyl dCTP [100 mM]	10 µmol	D1045
5-Hydroxymethylcytosine dNTP Mix [10 mM]	2.5 µmol	D1040
5-Methyl dCTP [10 mM]	1 µmol	D1035
5-Methylcytosine dNTP Mix [10 mM]	2.5 µmol	D1030

Also Available:

Product Name	Size	Catalog No.
OneStep qMethyl™ Kit	1 x 96	D5310
OneStep qMethyl™-Lite	1 x 96	D5311
Zymo Taq™ DNA Polymerase	50 200	E2001 E2002
Zymo Taq™ PreMix	50 200	E2003 E2004
EZ DNA Methylation™ Kit	50 200 2 x 96 2 x 96	D5001 D5002 D5003 D5004
EZ DNA Methylation-Gold™ Kit	50 200 2 x 96 2 x 96	D5005 D5006 D5007 D5008
EZ DNA Methylation-Direct™ Kit	50 200 2 x 96 2 x 96	D5020 D5021 D5022 D5023
EZ DNA Methylation-Startup™ Kit	1 Kit	D5024
EZ Bisulfite DNA Clean-up Kit™	50 200 2 x 96 2 x 96	D5025 D5026 D5027 D5028
Universal Methylated DNA Standard	1 set	D5010
Universal Methylated Human DNA Standard	1 set	D5011
Universal Methylated Mouse DNA Standard	1 set	D5012
Human HCT116 DKO Methylation Standards	1 set	D5014
Human HCT116 DKO Non-methylated DNA Standard	5 µg	D5014-1
Human HCT116 DKO Methylated DNA Standard	5 µg	D5014-2
Bisulfite Converted Universal Methylated Human DNA Standard	1 set	D5015
E. coli Non-methylated Genomic DNA	5 µg	D5016
Methylated-DNA IP Kit	10	D5101
ChIP DNA Clean & Concentrator™	50 50	D5201 D5205
Anti-5-Methylcytosine Monoclonal Antibody (clone 10G4)	50 µg 200 µg	A3001-50 A3001-200
CpG Methylase (M.SssI)	200 units 400 units	E2010 E2011

Trademarks and Disclaimers:

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The Polymerase Chain Reaction (PCR) process is covered by U.S. Pat. Nos. 4,683,195 and 4,683,202 assigned to Hoffmann-La Roche. Patents pending in other countries. No license under these patents to use the PCR process is conveyed expressly or by implication to the purchaser by the purchase of Zymo Research's *OneStep qMethyl™* Kit. Further information on purchasing licenses to practice the PCR process can be obtained from the director of Licensing at Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404 or at Roche Molecular Systems, Inc., 1145 Atlantic Avenue, Alameda, California 94501.

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