

Thermo Scientific ABSolute QPCR ROX Mix

Description

ABSolute™ QPCR ROX Mix has been developed to quantify DNA and cDNA*. With the exception of primers and template, this 2X mix contains all the components required to perform a rapid, sensitive and reproducible qPCR reaction:

- Thermo-Start™ DNA Polymerase, a chemically modified hot-start version of Thermoprime *Taq* DNA Polymerase, which prevents non-specific amplification during the reaction set-up. **This enzyme requires an activation step at 95°C for 15 minutes.**
- Proprietary reaction buffer which provides highly sensitive, specific and consistent fluorescence readings for real-time and end-point analysis. This buffer has been optimized for MgCl₂ and enhancers to improve amplification across a wide range of templates including plant DNA and GC rich fragments.
- dNTP's, including dTTP to improve reaction sensitivity and efficiency compared to dUTP.
- ROX, passive reference dye for normalization of data.

Kit Contents

Vial	Pack Size (cap color)	
	A	B
ABSolute QPCR ROX Mix (2X)	2 x 1.25 ml (clear)	16 x 1.25 ml (clear)

Cycler & Probe Compatibility

ABSolute™ QPCR ROX Mix is compatible for use with any probe system and qPCR cyclers requiring high ROX dye level, including ABI PRISM® 7000, 7300, 7700, 7900 and 7900HT (including Fast-Block).

* For RNA template, use Verso 1-Step QRT-PCR ROX Kit (AB-4101)

INFORMATION

Thermo-Start™ DNA Polymerase

The enzyme requires an activation step at 95°C for 15 minutes.

Thermo-Start™ has 5' to 3' polymerization and exonuclease activity but lacks 3' to 5' exonuclease activity (proofreading).

ROX Dye

ROX is an internal passive reference dye used to normalize the fluorescent reporter signal generated in qPCR. The concentration of ROX in the final 1X reaction is 500 nM.

Storage Conditions

Store at -20°C until ready for use. ABsolute™ QPCR ROX Mix is stable for a minimum of 12 months. The reagents can be stored at 4°C for up to 1 month. Avoid repeated freeze thawing. The ROX dye is light sensitive; exposure should be minimized. Shipped on ice within the UK and on dry ice internationally and within the US.

Additional Info

- The use of disposable gloves, DNase and RNase free filter tips and plastics is recommended.
- For optimal results, the recommended amplicon length is in the range of 60 to 300 bp.
- As best performance is achieved with dTTP, the ABsolute QPCR ROX Mix contains a nucleotide mix with dTTP instead of dUTP.

DIRECTIONS FOR USE

Tips and Protocol

Thaw the reagents on ice. Mix and spin down the solutions before use to recover the maximum amount. **Do not vortex the Absolute QPCR ROX Mix.** Briefly centrifuge to avoid bubbles within the wells, as these will interfere with the fluorescence. Always include a no template control (NTC).

Example of Reaction Mix preparation for a 25 µl final reaction:

	Volume	Final Concentration
Absolute QPCR ROX Mix (2X)	12.5 µl	1X
Forward primer (10 µM) ^a	1 µl	400 nM
Reverse primer (10 µM) ^a	1 µl	400 nM
Probe	Variable	100 - 250 nM
Water (PCR grade) ^b	Variable	
Template (DNA or cDNA) ^c	1 - 5 µl	<250 ng/reaction
Total volume	25 µl	

Example of a **qPCR thermal cycling program**:

	Temp.	Time	Number of cycle
Enzyme activation	95°C	15 min	1 cycle
Denaturation	95°C	15 sec	40 cycles
Annealing/Extension ^d	60°C	60 sec	

Notes

- a – For optimization, a primer titration should be performed from 100 nM to 500 nM final concentration. Scale up or down the volume and concentration as appropriate.
- b – The volume of the total reaction should be completed up to 25 µl with water.
- c – The volume of template to add to the qPCR reaction can be adjusted as required. For standard templates only 1 µl should be added to reduce carryover of PCR inhibitors. This volume can be increased up to 5 µl for low copy number templates.
- d – Separate annealing (50–60°C for 30 sec) and extension steps (72°C for 30 sec) may be necessary with some probe systems (e.g. Molecular Beacons), as the optimal temperature for detecting fluorescence may be different.

Quality control

ABsolute QPCR ROX Mix is tested functionally using qPCR. The product must demonstrate linearity of amplification over a specified serial dilution of human genomic DNA.

Ordering Information

AB-1138/A	ABsolute™ QPCR ROX Mix	200 x 25 µl rxns
AB-1138/B	ABsolute™ QPCR ROX Mix	1,600 x 25 µl rxns
AB-1139/A	ABsolute™ QPCR ROX Mix	400 x 25 µl rxns
AB-1139/B	ABsolute™ QPCR ROX Mix	4,000 x 25 µl rxns

Related Products

Cat. No.	Description	Quantity
AB-4138/A	ABsolute™ Blue QPCR ROX Mix	2 x 1.25 ml
AB-1100/W	ABgene 96-Well PCR Plate (Raised Semi-Skirt, white) *	25 plates
AB-1400/W	ABgene 96-Well PCR Plate (Semi-Skirted, Flat-Deck, white) *	25 plates
AB-1170	ABsolute™ QPCR Adhesive Seal	50 sheets
AB-0866	Ultra Clear Cap Strips (8 caps)	120 strips

* For cyclor compatibility and other color choices, see our latest catalog or visit www.thermo.com/abgene

Troubleshooting

For technical information or troubleshooting contact Thermo Scientific Genomics Tech Support:

	United States	Rest of World
Email	abgeneus.techservice@thermofisher.com	abgene.techsupport@thermofisher.com
Phone	+1 (800) 235-9880	+44 (0)1372 840410

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Literature Code: AB-1138-v2-0411