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NZYtech
genes & enzymes

MOLECULAR BIOLOGY

real-time pcr

qPCR MASTER MIXES

ONE-STEP RT-qPCR KITS

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qPCR COMPONENTS

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Life Science Research 2023

REAL-TIME PCR

qPCR MASTER MIXES

NZYTech has developed and optimized two of the most widely used real-time fluorescent PCR chemistries: the probe-detection technology (Probe Mixes) and the intercalating green dye chemistry (Green Mixes). NZYSupreme mixes are ultra-sensitive mixes developed with a dual hot-start mode and suitable for standard thermal cycling protocols. NZYSpeedy mixes present a higher performance for the faster real-time PCR protocols. Passive reference dye based on ROX™ dye is used to normalize the fluorescent reporter signal in real-time PCR. NZYTech provides highly optimized mixes that are compatible with different thermocyclers available on the market. NZYTech recently increased its portolio of real-time qPCR products by introducing lyophilized master mixes, which are very stable formulations that allow an eco-friendly and cost-effective room temperature shipment.

Choose the mix with the reference dye that is most appropriate for your instrument with the help of the qPCR Selection Guide below.

	ROX plus	ROX	(no ROX*)
Agilent			
AriaMX		✓	
MX3000P™, MX3005P™, MX4000P™		✓	
Applied Biosystems™			
7000/7300/7700	✓		
7500/7500 FAST		✓	
7900/7900HT/7900HT FAST	✓		
QuantStudio™ 5, 6, 7, 12k Flex/ViiA7™		✓	
StepOne™/StepOne™plus	✓		
Bio-Rad®			
CFX Opus/CFX96™/CFX384™			✓
Opticon™/Opticon™ 2			✓
Fluidigm®			
BioMark™		✓	
Illumina®			
Eco™			✓
Qiagen			
Rotor-Gene™ 3000			✓
Rotor-Gene™ 6000			✓
Rotor-Gene™ Q			✓
Roche			
Lightcycler® 96			✓
Lightcycler® 480			✓
Lightcycler® Nano			✓

* For qPCR instruments that require ROX reference dye, it is possible to add ROX in a separate step, according to instructions provided in the respective Master Mix product brochure.

Green Master Mixes

NZYSupreme qPCR Green MM (2x), ROX plus	
MB44001	2 mL (200 x 20 µL rxs)
MB44002	5 mL (500 x 20 µL rxs)
MB44003	20 mL (2000 x 20 µL rxs)

NZYSupreme qPCR Green MM (2x), ROX	
MB44101	2 mL (200 x 20 µL rxs)
MB44102	5 mL (500 x 20 µL rxs)
MB44103	20 mL (2000 x 20 µL rxs)

NZYSupreme qPCR Green Master Mix (2x)	
MB41901	2 mL (200 x 20 µL rxs)
MB41902	5 mL (500 x 20 µL rxs)
MB41903	20 mL (2000 x 20 µL rxs)

Hot-start like activity
Reproducibility
Highly sensitive

Also Available:

NZYSpeedy qPCR Green Master Mix (2x), ROX plus	
MB22201	2 mL (200 x 20 µL rxs)
MB22202	5 mL (500 x 20 µL rxs)
MB22203	20 mL (2000 x 20 µL rxs)

NZYSpeedy qPCR Green Master Mix (2x), ROX	
MB22301	2 mL (200 x 20 µL rxs)
MB22302	5 mL (500 x 20 µL rxs)
MB22303	20 mL (2000 x 20 µL rxs)

NZYSpeedy qPCR Green Master Mix (2x)	
MB22401	2 mL (200 x 20 µL rxs)
MB22402	5 mL (500 x 20 µL rxs)
MB22403	20 mL (2000 x 20 µL rxs)

Probe Master Mixes

NZYSupreme qPCR Probe MM (2x), ROX plus	
MB43901	2 mL (200 x 20 µL rxs)
MB43902	5 mL (500 x 20 µL rxs)
MB43903	20 mL (2000 x 20 µL rxs)

NZYSupreme qPCR Probe MM (2x), ROX	
MB43801	2 mL (200 x 20 µL rxs)
MB43802	5 mL (500 x 20 µL rxs)
MB43803	20 mL (2000 x 20 µL rxs)

NZYSupreme qPCR Probe Master Mix (2x)	
MB41601	2 mL (200 x 20 µL rxs)
MB41602	5 mL (500 x 20 µL rxs)
MB41603	20 mL (2000 x 20 µL rxs)

Lyo NZYSupreme qPCR Probe Master Mix (2x)	
MB41702	For 1.5 mL (150 x 20 µL rxs)

NZYSupreme Multiplex qPCR Probe MM (2x)	
MB45201	2 mL (200 x 20 µL rxs)
MB45202	5 mL (500 x 20 µL rxs)
MB45202	20 mL (2000 x 20 µL rxs)

Lyo NZYSupreme Multiplex qPCR Probe MM (2x)	
MB45301	For 1.5 mL (150 x 20 µL rxs)

High efficiency
High specificity
Efficient multiplexing

Also Available:

NZYSpeedy qPCR Probe Master Mix (2x), ROX plus	
MB22801	2 mL (200 x 20 µL rxs)
MB22802	5 mL (500 x 20 µL rxs)
MB22803	20 mL (2000 x 20 µL rxs)

NZYSpeedy qPCR Probe Master Mix (2x), ROX	
MB22901	2 mL (200 x 20 µL rxs)
MB22902	5 mL (500 x 20 µL rxs)
MB22903	20 mL (2000 x 20 µL rxs)

NZYSpeedy qPCR Probe Master Mix (2x)	
MB23001	2 mL (200 x 20 µL rxs)
MB23002	5 mL (500 x 20 µL rxs)
MB23003	20 mL (2000 x 20 µL rxs)

ONE-STEP RT-qPCR KITS

NZYTech provides One-step real-time PCR kits designed to directly amplify RNA samples on your real-time PCR instrument. These kits were developed to enable cDNA synthesis from input RNA followed by PCR amplification of the cDNA in the same reaction well, with no extra hands-on requirement or further reagent addition. This not only reduces the number of sample manipulations but also saves time. One-step kits are available for Probe and Green detection. Choose the One-step real-time PCR kit that most suits your experiment and that is most appropriate for your instrument through the analysis of the qPCR Selection Guide presented in page 22.

One-Step RT-qPCR Green Kits

Fast

One-step RT-qPCR Green Kit (2x), ROX plus

MB34401	100 reactions
MB34402	500 reactions

One-step RT-qPCR Green Kit (2x)

MB34601	100 reactions
MB34602	500 reactions

One-step RT-qPCR Green Kit (2x), ROX

MB34501	100 reactions
MB34502	500 reactions

One-Step RT-qPCR Probe Kits

Fast

One-step RT-qPCR Probe Kit (2x), ROX plus

MB35001	100 reactions
MB35002	500 reactions

One-step RT-qPCR Probe Kit (2x)

MB35201	100 reactions
MB35202	500 reactions

One-step RT-qPCR Probe Kit (2x), ROX

MB35101	100 reactions
MB35102	500 reactions

ONE-STEP RT-qPCR MASTER MIXES

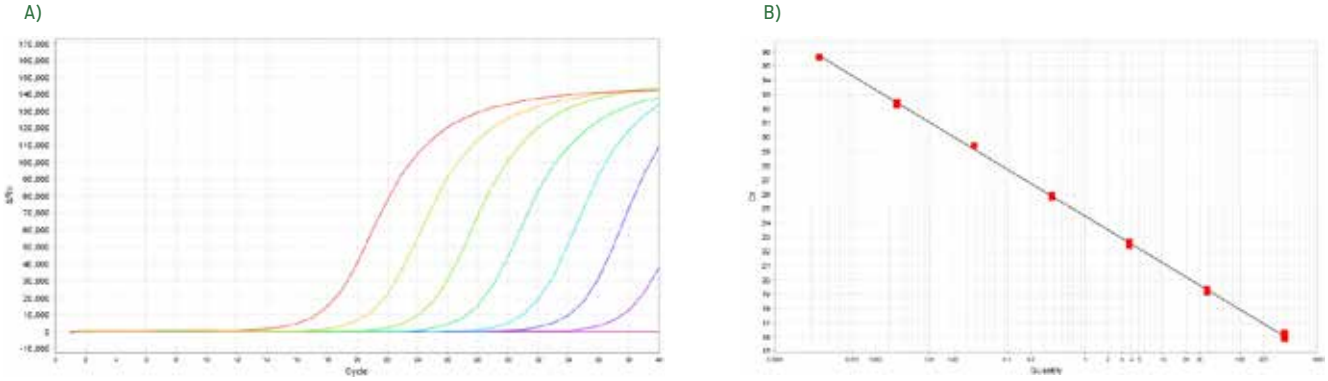
NZYTech provides One-step real-time qPCR master mixes containing all required components (except primers/probe and template) to perform reverse transcription and qPCR amplification in a single-step. This offers great convenience and minimizes the risk of errors and contaminations. These master mixes were engineered with a dual hot-start enzyme control mechanism to provide the highest detection sensitivity. In addition, the latest developments in PCR enhancers were introduced. Lyophilized versions are also available as very stable room temperature options.

One-Step RT-qPCR Probe Master Mixes

NZYSupreme RT-qPCR Probe MM (2x)	
MB41401	2 mL (200 x 20µL rxs)
MB41402	5 mL (500 x 20 µL rxs)
MB41403	20 mL (2000 x 20 µL rxs)

NEW NZYSupreme Multiplex RT-qPCR Probe MM (2x)	
MB44201	2 mL (200 x 20 µL rxs)
MB44202	5 mL (500 x 20 µL rxs)
MB44203	20 mL (2000 x 20 µL rxs)

NZYSupreme One-step RT-qPCR Probe Master Mix: High-performance across a wide dynamic range of very low RNA inputs (<0.5 pg)



A 10-fold serial dilution of total RNA from mouse liver (375 ng to 0.375 pg) was used as template for a one-step real-time RT-qPCR experiment to detect the rpl27 housekeeping gene.

Panel A: evidence of the high performance and linearity when using NZYSupreme One-step RT-qPCR Probe Master Mix. Panel B: standard curve (slope: -3.28; efficiency: 101.7%).

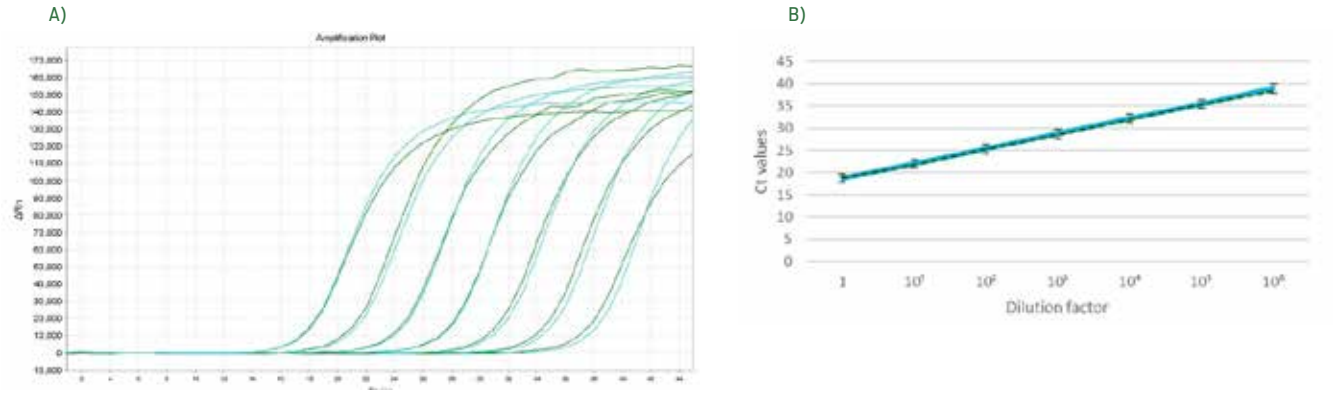
- Ultra-sensitive: Detect low-copy number targets (8 copies)
- Dual Hot-Start mode for Supreme versions
- Include RNase Inhibitor
- Efficient multiplexing
- Lyo formats stable at Room Temperature

Lyo One-step RT-qPCR Master Mixes

Lyo NZYSupreme RT-qPCR Probe MM (2x)	
MB41501	For 1.5 mL (150 x 20 µL rxs)

NEW Lyo NZYSupreme Multiplex RT-qPCR Probe MM (2x)	
MB44301	For 1.5 mL (150 x 20 µL rxs)

NZYSupreme One-step RT-qPCR Probe Master Mix vs Lyo NZYSupreme One-step RT-qPCR Probe Master Mix:
Remarkable efficiency and sensitivity ensured in all formats available



High sensitivity and linearity of the two formulations of NZYSupreme One-step RT-qPCR Probe Master Mix – liquid (with glycerol) and lyophilized (tested after rehydrated with the respective reconstitution buffer), across a wide range of input RNA (from 375 ng to 0.375 pg) to amplify the rpl27 mouse gene.
Panel A: Amplification curves evidencing the high reproducibility between the liquid (blue curves) and lyophilized (green curves) formats.
Panel B: Comparison of Ct variation across template dilutions.

qPCR COMPONENTS

DEPC-treated Water	
MB43701	5 x 1 mL