

ORDERING INFORMATION

CAT. NO.	SIZE	PACKAGE CONTENT
BC0504305	500 rxns of 20 µl	750 µl 10X LYO-ready CAPITAL™ qPCR Probe Master Mix 3 ml 4X qPCR Probe Reconstitution Buffer

COMPONENT	COMPOSITION
14X LYO-ready CAPITAL™ qPCR Probe Master Mix	14X concentrated formulation of a qPCR Probe Master Mix including excipients ready for lyophilization
4X qPCR Probe Reconstitution Buffer	Optimized PCR reconstitution buffer in 4X concentration

STORAGE Store at -20 °C until expiry date.

FEATURES

- Freeze-dryable formulation including excipients and stabilizers
- Best-in-class performance in both single and multiplex quantitative amplification
- Convenient master mix for low-copy number pathogen detection
- High specificity and sensitivity across a wide range of sample sources

APPLICATIONS

- For use with standard and fast qPCR platforms
- Single and multiplex qPCR amplification
- Compatible with a wide range of probe technologies including Taqman®, Molecular Beacons® and Scorpion® probes

DESCRIPTION

biotechrabbit™ 14X LYO-ready CAPITAL™ qPCR Probe Master Mix is a ready-to-use and concentrated formulation of all enzymes, dNTPs, excipients, and stabilizers for producing home-made lyophilizates with the option to include primers and probes. The time-effective lyophilization is possible for high and low volumes of the master mix without the collapse of the lyophilizate. The resulting lyophilizate is highly resistant to humidity and is swiftly dissolved in the provided reconstitution buffer.

The master mix is optimized for real-time PCR quantification of viral DNA, cDNA and genomic DNA from a wide range of targets. The mix ensures high specificity and sensitivity in single and multiplex amplification, making it the best choice for extremely low-copy-number targets in pathogen detection. CAPITAL™ qPCR Probe Master Mix uses a proprietary enzyme and buffer formulation suitable for fast extension and multiplexing in challenging PCR reactions.

HANDLING

Prevention of contamination

Contamination with undesired DNA is a concern when assembling the amplification reactions. To eliminate the possibility of contamination with undesired DNA, follow the guidelines below:

- Wear disposable gloves when handling the solutions.
- Dedicate separate sterile areas for the preparation of samples and reaction mixtures.
- Use molecular-grade nuclease-free water and reagents.
- Include a non-template control reaction in every PCR assay.
- Avoid carryover contamination.

Before starting a lyophilization project, please consider the following recommendations

- The formulation is optimized for freeze-drying a minimum of 5 reactions of 20 μ l.
- *Optional:* Prepare concentrated primers and probes in molecular biology grade water and restrict the volume to 20 % of the master mix.

CALCULATION EXAMPLES

Three calculation examples for 20 μ l reaction size

PARAMETER	EXAMPLE A	EXAMPLE B	EXAMPLE C
qPCR volume	20 μ l	20 μ l	20 μ l
Reactions per bead/cake	5	50	100
Number of beads/cakes	1	10	50
Total number of reactions	5	500	5000
Total reaction volume	100 μ l	10 ml	100 ml

PIPETTING SCHEME

Divide the total reaction volume above, by a factor of 14; minimize the volume of primers and probes

COMPONENT	EXAMPLE A	EXAMPLE B	EXAMPLE C
14X LYO-ready CAPITAL™ qPCR Probe Master Mix	7.1 μ l	71 μ l	7.1 ml
<i>Optional:</i> Primer & Probes (max. 20 % v/v)	1.4 μ l	14 μ l	1.4 ml
Volume to freeze-dry per bead/cake	8.5 μ l	85 μ l	170 μ l

SUGGESTED LYOPHILIZATION PROTOCOL

STEP	TIME*	TEMPERATURE	PRESSURE
Freezing	120 min	-40 °C	---
Primary drying	600 min	-40 °C	0.12 mbar / 12 Pa
Secondary drying	300 min	25 °C	0.01 mbar / 1 Pa

*Duration of freeze-drying cycles depends on the lyophilizate volume, the equipment, the type and dimensions of the vials.

RECONSTITUTION OF LYOPHILIZED MASTER MIX

- Add the required volume of the reconstitution buffer to the lyophilized CAPITAL™ qPCR Probe Master Mix (see examples below)
- Mix well – the lyophilizate should dissolve swiftly
- Store the reconstituted CAPITAL™ qPCR Probe Master Mix at –20 °C

PARAMETER	EXAMPLE A	EXAMPLE B	EXAMPLE C
4X Reconstitution Buffer per bead/cake	25 µl	250 µl	500 µl
Total volume of 4X Reconstitution Buffer	25 µl	2.5 ml	25 ml

CYCLING PROGRAM

STEP	TEMPERATURE	TIME	CYCLES
Initial activation	95 °C	3 min	1
Denaturation	95 °C	10 s	40 – 45
Annealing/Extension*	60 – 68 °C*	30 s	

* Recommendation is primer T_m +2 °C or use gradient PCR to optimize the annealing temperature. Do not use annealing temperatures below 60 °C.

QUALITY CONTROL ASSAYS

Functional assay

The performance of the reconstituted mix was confirmed by qPCR.

SAFETY INSTRUCTIONS

For safety instructions please see Safety Data Sheets (SDS)
Sicherheitshinweise finden Sie in den Sicherheitsdatenblättern (SDB) unter
<http://www.biotechrabbit.com/support/documentation.html>

USEFUL HINTS

- Visit Applications at www.biotechrabbit.com for more products and product selection guides.
- Most biotechrabbit products are available in custom formulations and bulk amounts.
- In case any customization is required, please contact biotechrabbit via oem@biotechrabbit.com.

CONTACT BIOTECHRABBIT

biotechrabbit GmbH
Volmerstr. 9
12489 Berlin
Germany

info@biotechrabbit.com
support@biotechrabbit.com
www.biotechrabbit.com

Phone: +49 30 555 78 21 10
Fax: +49 30 555 78 21 99



Legal Disclaimer and Product Use Limitation

Purchase of a product does not include a license to perform any patented applications; therefore it is the sole responsibility of users to determine whether they may be required to engage a license agreement depending upon the particular application in which the product is used. This product was developed, manufactured, and sold for in vitro use only. It is not suitable for administration to humans or animals.

Trademarks: biotechrabbit™, CAPITAL™ (biotechrabbit GmbH).

valid from 08.05.2023