

# Lyo-Ready Probe 1-Step Kit



- Advanced glycerol-free 4x formulation
- Designed for multiplex diagnostic assays
- Manufactured under ISO 13485

Lyo-Ready Probe 1-Step Kit is a lyophilisable 1-Step RT-qPCR kit designed for ultra-sensitive detection of viral RNA sequences. Specially formulated with a blend of excipients, the kit delivers reliable performance post-lyophilisation and is ideal for the development of diagnostic assays that require room temperature storage.

## Features

- Ultra-sensitive detection of RNA viruses
- Offers the same high performance post-lyophilisation as our standard kits
- Includes a glycerol-free 4x qPCR mix
- Pre-blended with excipients for reliable lyophilisation into beads or cakes
- Provided with separate, high-concentration UltraScript RTase (with RNase inhibitor)
- Validated for qualitative detection of SARS-CoV-2 nucleic acid
- Compatible with high-throughput, highly-multiplexed assays

## Applications

- Development of lyophilised molecular diagnostic tests
- Detection of extremely low copy number targets
- TaqMan®, Scorpions® and molecular beacon probes

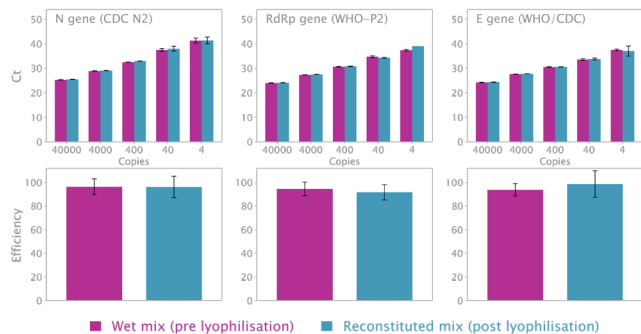


Fig 1. Reliable performance after lyophilisation in a multiplex setup

Multiplex amplification of SARS-CoV-2 N gene, E gene and RdRp gene according to CDC recommended sequences (N2) and WHO/Charité sequences (E and RdRp-P2) using Lyo-Ready Probe 1-Step Kit as a wet mix (purple bars) or reconstituted mix after lyophilisation (blue bars).

Ct values are shown in the top panels and efficiency in the bottom panels. 5 serial dilutions of RNA template were used, corresponding to 40000, 4000, 400, 40 and 4 copies of the SARS-CoV-2 genome. The total reaction volume was 20  $\mu$ L. Cycle conditions were 55  $^{\circ}$ C 10 min, 95  $^{\circ}$ C 3 min and 50 cycles of 95  $^{\circ}$ C 15 s, 58  $^{\circ}$ C 30 s. Lyo-Ready Probe 1-Step Kit shows no loss of efficiency or sensitivity after lyophilisation.

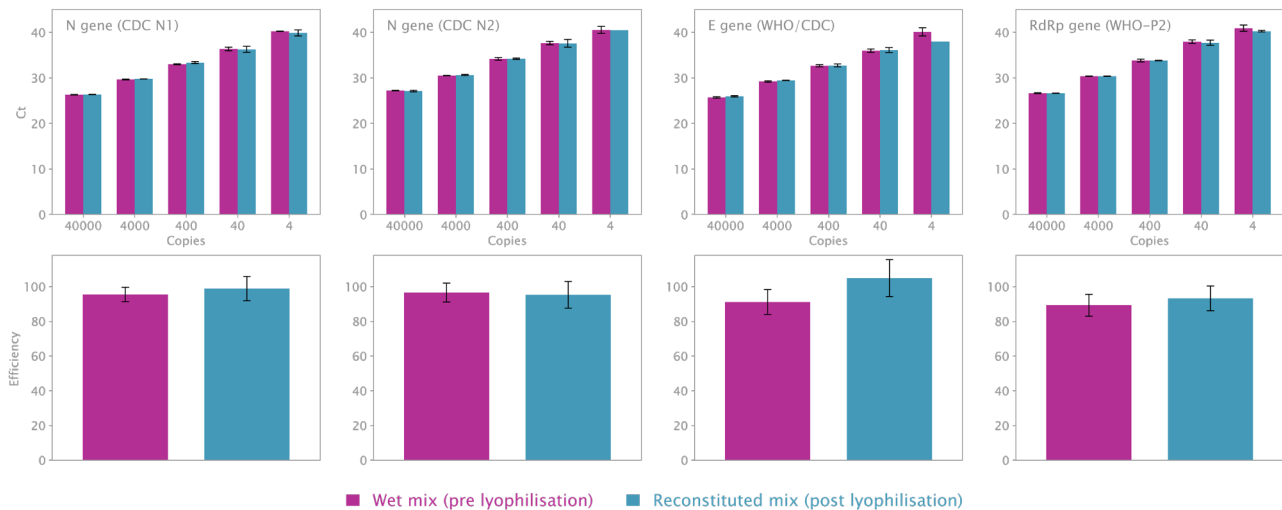


Fig 2. Reliable performance after lyophilisation in a singleplex setup

Amplification of SARS-CoV-2 targets using Lyo-Ready Probe 1-Step Kit as a wet mix (purple bars) or reconstituted mix after lyophilisation (blue bars) in singleplex. SARS-CoV-2 targets used were the N gene (CDC N1 and N2 sequences), E gene (WHO/CDC sequences) and RdRp gene (WHO sequences). Ct values are shown in the top panels and efficiency in the bottom panels. 5 serial dilutions of RNA template were used corresponding to 40000, 4000, 400, 40 and 4 copies of the SARS-CoV-2 genome. Total reaction volume was 20  $\mu$ L. Cycle conditions were 55 °C 5 min, 95 °C 3 min and 50 cycles of 95 °C 15 s, 58 °C 30 s. Lyo-Ready Probe 1-Step Kit shows no loss of efficiency or sensitivity after lyophilisation.

## Optimised for lyophilisation

Lyo-Ready Probe 1-Step Kit is specially formulated for ultra-sensitive detection of viral RNA using probe-based 1-step RT-qPCR and is ideal for the development of lyophilised diagnostic tests. Lyophilisation offers many advantages including ambient storage, extended shelf-life and increased versatility in sample volume. The kit has been optimised to offer the same high performance post-lyophilisation as our standard 1-step RT-qPCR kits.

## Robust and reliable RT-qPCR

Lyo-Ready Probe 1-Step Kit includes a glycerol-free 4x qPCR mix containing hot start Taq polymerase, dNTPs, MgCl<sub>2</sub> and a blend of excipients to ensure reliable lyophilisation, without loss of activity. Antibody-mediated hot start technology ensures specific amplification

of virus-derived cDNA, with improved tolerance to the common PCR inhibitors found in clinical samples.

UltraScript Reverse Transcriptase is provided separately in a highly concentrated 3200x format, and enables fast and efficient reverse transcription up to 55 °C.

## Customisable diagnostic assay development

Here at PCR Biosystems we understand that every molecular diagnostic assay is different and the process to lyophilise them can be challenging. With this in mind we have developed a Pre-Lyo Probe 1-Step Beta Test Evaluation Kit in which different candidate mixes are presented for evaluation. Please contact us if you would like to incorporate this into your initial verification work.

Cat. No.	Product Name	Pack Size	Presentation
PB90.11-03	Pre-Lyo Probe 1-Step Evaluation Kit	600 Reactions	[3 x 1 mL mix] & [1 x 600 $\mu$ L 20x UltraScript]
PB90.12-10	Lyo-Ready Probe 1-Step Kit	2000 Reactions	[2 x 5 mL mix] & [1 x 12.5 $\mu$ L 3200x UltraScript]
PB90.12-50		10000 Reactions	[1 x 50 mL mix] & [1 x 62.5 $\mu$ L 3200x UltraScript]
PB90.12-500		100000 Reactions	[1 x 500 mL mix] & [1 x 625 $\mu$ L 3200x UltraScript]
PB90.01-03	Lyo-Ready Probe Mix	600 Reactions	3 x 1 mL
PB90.01-10		2000 Reactions	2 x 5 mL
PB90.01-50		10000 Reactions	1 x 50 mL
PB90.01-500		100000 Reactions	1 x 500 mL