

# RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X Master Mix

## Lyo-compatible master mix for sensitive pathogen detection

RapiDxFire™ Lyo-Flex 1-Step RT-qPCR 5X Master Mix has been specially formulated with a heat-activated thermostable reverse transcriptase, developed to tolerate higher temperatures. This allows for increased specificity in cDNA synthesis, which is then followed by robust and specific PCR amplification of both RNA and DNA targets due to the thermostable Taq DNA polymerase. Not only is a fully assembled RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X reaction mix stable at room temperature for up to 8 hours (allowing for flexibility in laboratory processes and automation workflows), but its glycerol-free formulation allows for lyophilisation compatibility, enabling for ease of storage, transport and point of care testing. This product is for General Laboratory Use and is manufactured to ISO 13485 standards.

### Sensitive detection of both RNA and DNA targets

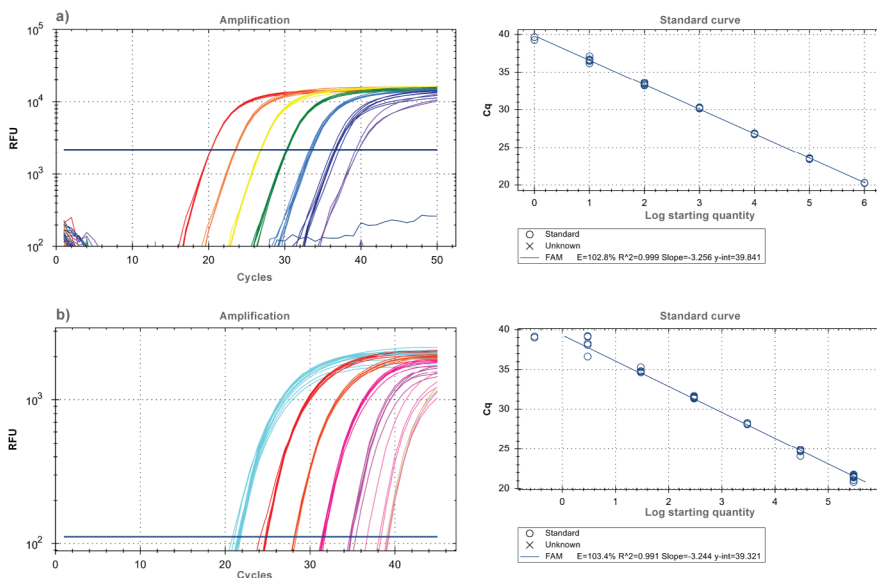


Figure 1. Broad dynamic range for both RNA and DNA targets. (a) SARS-CoV-2 RNA control (Twist) 10-fold serially diluted from  $1 \times 10^6$ – $1 \times 10^0$  copies per reaction, on which the UltraDx SARS-CoV-2 N1/N2/RnP assay (Biosearch Technologies) was performed (N1/N2:FAM shown) (20  $\mu$ L total reaction volume). (b) genomic mouse DNA 10-fold serially diluted from 300,000 to 3 copies per reaction on which the Isg20 assay was performed (FAM) (20  $\mu$ L total reaction volume). PCR efficiencies (90%–110%) and R<sup>2</sup> values >0.98 for (a) SARS-CoV-2 RNA and (b) genomic mouse DNA assays met PCR criteria.

- **Broad dynamic range for both RNA and DNA targets in multiplex reactions:** Due to a 5X concentration, we have shown sensitivity down to 10 copies per reaction of SARS-CoV-2 RNA and down to 3 copies per reaction of genomic mouse DNA.
- **Enhanced room temperature stability:** Fully assembled reaction mix (all reaction components plus RNA template) is stable for up to eight hours at 20–25 °C, allowing for ease of laboratory workflow processes and automation.
- **Lyophilisation compatible:** Free of glycerol and any other lyophilisation-interfering components, reaction performance is unaffected, with stability demonstrated for up to 4 months and counting.

## Stable at room temperature for up to 8 hours

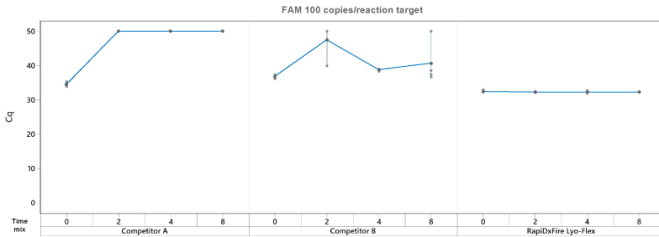


Figure 2. Fully assembled reaction mix at room temperature gives stable and sensitive Cq values for all targets for up to 8 hours. Genomic MS2 RNA (100 copies per reaction, 20  $\mu$ L total reaction volume) tested in triplex, with each MS2-region specific BHQ™ Probe assigned a unique fluorophore. Data for R6D1:FAM shown. RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X Master Mix was tested against Competitor A and Competitor B, according to manufacturer's recommendations. The lower the Cq value, the more sensitive the detection. A Cq value  $\geq$ 50 is indicative of no amplification.

## Lyophilisation compatible

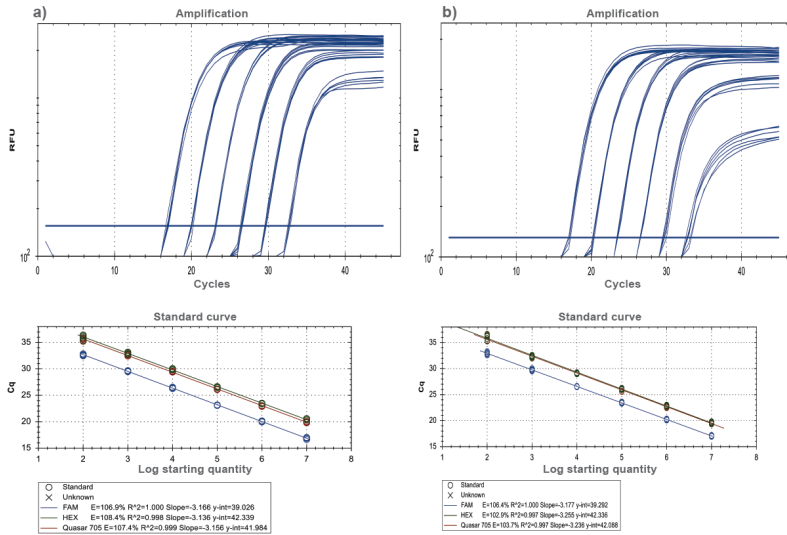


Figure 3. Lyobead stability demonstrated after 0 and 4 month storage at room temperature (25 °C). Lyobeads (manufactured by Vendor B) were prepared with RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X Master Mix and tested against genomic MS2 RNA 10-fold serially diluted from  $1 \times 10^7$ - $1 \times 10^2$  copies per reaction (20  $\mu$ L total reaction volume), with each MS2-region specific BHQ Probe assigned a unique fluorophore (R6D1:FAM; R3D3:CAL Fluor Orange 560; R8D1:Quasar 705). (a) 0 month and (b) 4 month time point amplification curves, tested with the R6D1:FAM assay and standard curves for all targets, with PCR efficiencies (90%-110%) and R² values >0.98, meeting PCR criteria.

## Ordering information

Cat no.	Number of reactions	Description
30060-1	250	RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X Master Mix 1 mL
30060-2	2,500	RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X Master Mix 10 mL
30060-3	25,000	RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X Master Mix 100 mL

### Limitations:

Results are a property of both the assay and template type/concentration in the sample, as well as the formulation of the master mix itself. As such, individual results may vary.

# Integrated tools. Accelerated science.

[@LGCBiosearch](https://www.lgcbiosearch.com) | [biosearchtech.com](https://www.biosearchtech.com)

RapiDxFire Lyo-Flex 1-Step RT-qPCR 5X Master Mix is a General Purpose Reagent (GPR), labelled For Laboratory Use (FLU). The FLU label statement identifies an *in vitro* diagnostic medical device in the United States. Outside the United States the FLU statement is equivalent to Research Use Only. All trademarks and registered trademarks mentioned herein are the property of their respective owners. All other trademarks and registered trademarks are the property of LGC and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or any retrieval system, without the written permission of the copyright holder. ©LGC Limited, 2022. All rights reserved. GEN/1028/SW/0222



For Laboratory Use.

# BIOSEARCH™ TECHNOLOGIES

GENOMIC ANALYSIS BY LGC