

qPCR Extraction Controls

Monitor extraction and co-purification of inhibitors with a single control



Molecular IVD companies continue to experience tighter and tighter regulations in regard to incorporating appropriate positive and negative controls into their assays.

A common practice for qPCR assays is to spike a known amount of control DNA into the sample after DNA extraction. Adding control DNA after extraction allows for monitoring of inhibition within the assay but has no value as an extraction control. The ideal situation is to have the test sample and internal control undergo exactly the same processing prior to qPCR.

Product Overview

- Extraction control undergoes the same processing as test sample
- Can be used with a variety of sample types including inhibitor-rich samples such as blood, urine and sputum
- Confirms successes of extraction step and monitors co-purification of PCR inhibitors
- Probe based designed specifically for multiplex qPCR assays
- Control DNA is unique with no homology to any organism

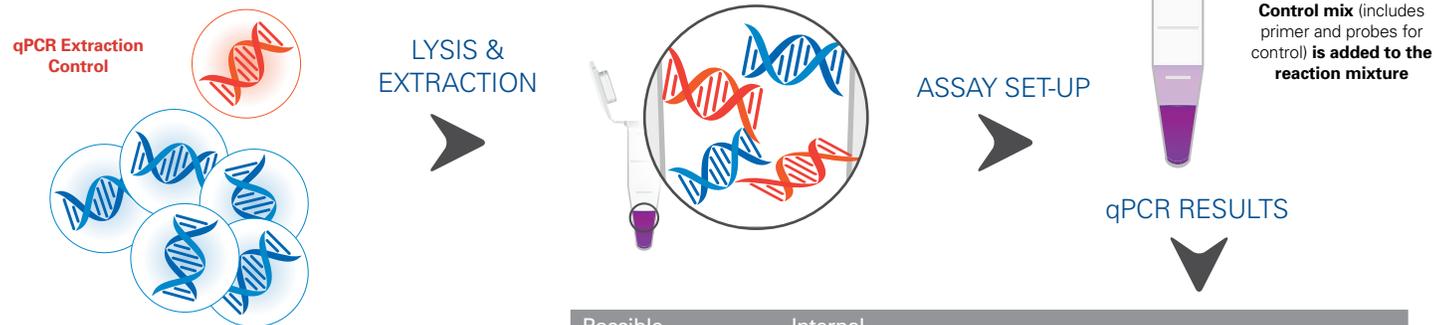
Meridian has developed novel extraction controls for qPCR diagnostic assays that are able to more closely mimic the test sample, compared with traditional spike controls. This provides the advantage of monitoring both the success of the extraction step and the presence of any co-purified inhibitors both of which could affect the assay results.

The qPCR Extraction Controls use *E. coli* cells of a known concentration that contain the Internal Control DNA sequence (with no known homology to any organism, so that it does not interfere with the detection of the sample target DNA). Genetic material from the test sample and the DNA extraction control are simultaneously extracted by common extraction methods, with the control being as sensitive to inhibitors and extraction failure as the test sample.

Product	Cat No.	Volume	Reactions
qPCR Extraction Control Red	MDX026	10 mL	2,000 Rxn
qPCR Extraction Control Orange	MDX027	10 mL	2,000 Rxn

Workflow

The qPCR Extraction Control is added to the lysis buffer along with the test sample before extraction to monitor poor extraction yield, PCR inhibition, incorrect pipetting or cycling parameters.



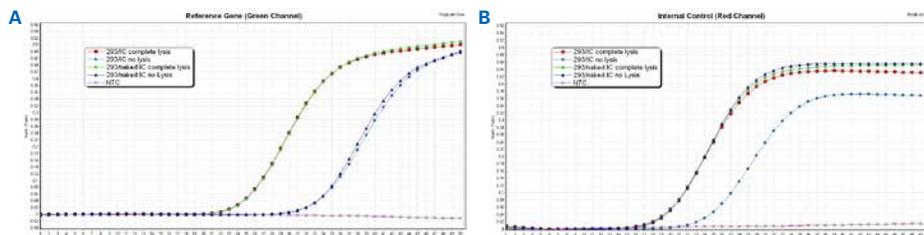
qPCR extraction control starts monitoring from lysis and extraction

Possible Result	Target	Internal Control DNA	Interpretation
1	+	+	Target(s) and internal control DNA detected.
2	-	+	Target(s) not detected, internal control DNA detected, indicates a successful extraction and qPCR reaction.
3	-	-	Invalid result: Target(s) and internal control DNA not detected, repeat test.
4	+	-	Invalid result: Internal control not detected, repeat test.

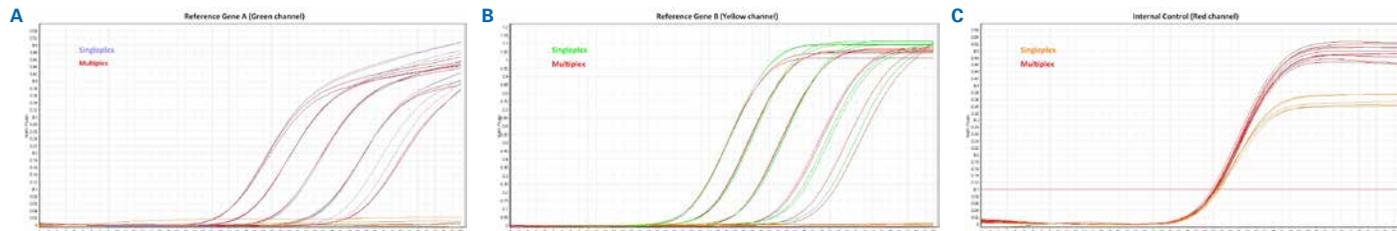
Product Highlights

qPCR Extraction Control Performs Identical To Spiked Internal Control DNA In Monitoring Inhibition

A) Spiked Internal Control DNA (green channel) and B) qPCR Extraction Control (red channel) were amplified from HEK293 cells. A standard column based genomic DNA extraction kit was used, with the lysis buffer or binding buffer being substituted with PBS to simulate inefficient extraction. Conditions were 10 min at 95 °C 10 s, 60 °C 30 s. Complete lysis step (red) and the pattern on inhibition for no lysis (orange) and no binding buffer (green) are the same across both types of controls.



Suitable For Multiplex Or Singleplex Reactions



A) A fragment of the beta 2 microglobulin (β 2MG) gene and B) A fragment of the glyceraldehyde-3-phosphate dehydrogenase (GAPDH) gene were amplified from HEK293 cells (green channel) and C) the internal control sequence were amplified from the qPCR Extraction Control. Conditions were 10 min at 95 °C followed by 50 cycles 95 °C 10 s, 60 °C 30 s. The results illustrate that there is no difference in Ct's between singleplex and multiplex reactions.

Ordering information:

USA
E: info@meridianlifescience.com
Toll free: +1 800 327 6299

UK
E: info.uk@meridianlifescience.com
Tel: +44 (0)20 8830 5300

Germany
E: info.de@meridianlifescience.com
Tel: +49 (0)3371 60222 00

France
E: info.fr@meridianlifescience.com
Tel: +33 (0)1 42 56 04 40

美国迈迪安生命科学公司
电子邮件: vivian.li@meridianlifescience.com
电话: +86-159-1103-0750

Australia
E: info.au@meridianlifescience.com
Tel: +61 (0)2 9209 4180

meridian BIOSCIENCE™
LIFE DISCOVERED. LIFE DIAGNOSED.

Connect with us:  

www.MeridianBioscience.com/Lifescience

ISO 13485 Certified

05/19