

# DNA Extraction Control

Catalog numbers

Batch : See vial	BIO-35028: 500 Rxn	DNA Extraction Control 670 (Brown cap)
	BIO-35031: 500 Rxn	DNA Extraction Control 560 (Yellow cap)
	BIO-35033: 500 Rxn	DNA Extraction Control 610 (Orange cap)



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## Storage and stability:

DNA Extraction Control is shipped on dry/blue ice. All kit components should be stored at -20°C upon receipt. Excessive freeze/thawing is not recommended.

## Expiry:

When stored under the recommended conditions and handled correctly, quality is retained until the expiry date on the outer box label.

## Genotype:

F' *deoR endA1 recA1 relA1 gyrA96 hsdR17(rk<sub>+</sub>, m<sub>k</sub><sup>+</sup>) supE44 thi-1 phoA Δ(lacZYA-argF)U169 Φ80lacZΔM15 λ<sup>-</sup> pBR322 (ranseqb1 AmpR)*

## Quality Control:

The DNA Extraction Control is extensively tested for quality and the absence of contamination.

## Safety Precautions:

Please refer to the material safety data sheet for further information.

## Notes:

For research use only.

## Features

- Easy validation of DNA extraction protocols
- Minimal interference with sample detection
- Includes a ready-to-use reaction mix for easy setup
- Suitable for use with blood, urine and sputum starting samples

## Applications

- Monitoring of DNA extraction process in real-time PCR assays

## Description

The DNA Extraction Control enables users of diagnostic assays to validate their extraction step. DNA Extraction Control contains a known concentration of cells that contain the control DNA sequence. Cells containing internal control DNA are spiked into lysis buffer with the sample prior to DNA extraction. Following DNA extraction, the reaction mix is added to the extracted DNA prior to amplification. All components required for amplification of sample DNA should also be added. Presence of internal control DNA confirms the success of the extraction step, and reduces the chance of obtaining a false negative result in the sample DNA.

Control DNA has a sequence with no known homology to any organism and has been evaluated and determined, not to interfere with the detection of the sample DNA.

## Components

Reagent	500 Reactions	2000 Reactions
Internal Control	5 x 500 µL	20 x 500 µL
25x Control Mix	5 x 100 µL	20 x 100 µL

## Recommended Protocol

All steps should be carried out at room temperature unless otherwise stated. Conditions may vary from reaction to reaction, and may need optimisation.

## Extraction step

1. Thaw and brief spin down all tubes before opening.
2. **Vortex the internal control tube thoroughly to ensure complete mixing.**
3. Add 5µl of internal control DNA solution per sample to be added to your lysis buffer. For batch extraction, please ensure homogeneity of the lysis buffer/Internal control mixture before loading onto samples for uniform result. The remaining internal control DNA solution can be stored at 4 °C.
4. Follow the manufacturer's protocol for sample DNA extraction.

## Post-extraction set up

1. When using a 2x PCR Mastermix, the following conditions apply:
  - **Vortex Control Mix tube before making up the mastermix**

Component	Supplied	Volume
2x PCR Mastermix	No	12.5 µL
Target Probe/Primer mix	No	X µL
Sample DNA from extraction step	No	X µL
25x Control Mix (brown cap)	Yes	1 µL
Total Volume (for 1 reaction)		25 µL

2. Program amplification conditions as follows:

Cycles	Temperature	Duration	Notes
1	95 °C	10 min	Activation
30-40	95 °C	15 s	Denaturation
	Annealing Temperature	30-60 s	Annealing/Extension/Acquisition

3. Acquire DNA Internal Control fluorescence signal on the appropriate channel (i.e. DNA Extraction Control 670 (Quasar670 - emission wavelength = 670nm), DNA Extraction Control 560 (Cal Fluor Orange - emission wavelength = 560nm), DNA Extraction Control 610 (Cal Fluor Red - emission wavelength = 610nm).

- \* We recommend that the user performs a validation step to ensure that no cross-reactivity exists between the user's primers and the Internal Control DNA. The likelihood of such cross-reactivity is negligible.
- \*\* Ct of the internal control may vary due to elution volume of nucleic acid, use of mastermix, number of multiplex etc.

## Associated Products

Product	Pack size	Cat. No.
ISOLATE II Genomic DNA Kit	10 Preps	BIO-52065
ISOLATE II Plant DNA Kit	10 Preps	BIO-52068
SensiFAST Probe No-ROX Kit	500 reaction	BIO-86005

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