

ResiQuant® Ready-to-use Quantitative E. coli DNA Kit (Taqman)

Ready-to-use qPCR system for sensitive, specific residual E. coli host-cell DNA quantification

READY-TO-USE STANDARDS

Five pre-established E. coli DNA standards simplify daily assay setup.

CONTAMINATION CONTROL

UNG system helps reduce carryover contamination from previous PCR products.

EMBEDDED QUALITY CONTROL

Internal control system helps identify PCR inhibition and sample interference.

Product overview

ResiQuant® Ready-to-use Quantitative E. coli DNA Kit (Taqman) is a qPCR-based system for rapid, sensitive, and specific detection of residual E. coli host-cell DNA in biopharmaceutical intermediates, semi-finished products, and final drug products. It is suitable for E. coli-K12, E. coli-DH5α, E. coli-MC1061, E. coli-HB101, E. coli-XL1-Blue, and other suitable E. coli strains.

Key features

- Ready-to-use, five-point E. coli DNA standards minimize routine preparation and help reduce run-to-run variability.
- DNA standards are traceable to corresponding NIFDC national standards.
- UNG-containing amplification chemistry helps control PCR aerosol/carryover contamination.
- Embedded internal control (IC) monitors the reaction and supports identification of PCR inhibition.
- Reference dye ROX supports optical-path correction on compatible instruments.

Typical applications

Residual E. coli host-cell DNA quantification for process intermediates, drug substance, and drug product samples in process development, scale-up, manufacturing, and quality-control workflows. For complex or new matrices, perform a suitability study and use an appropriate DNA pretreatment method before qPCR analysis.

General product characteristics

Target host cell	Escherichia coli (E. coli): K12, DH5α, MC1061, HB101, XL1-Blue, and suitable E. coli strains
Detection method	Taqman® qPCR; primer-probe detection
Reporter dye	FAM (E. coli target); HEX/VIC (internal control)
Quantitative range	300 pg/μL to 30 fg/μL
Recovery rate	70%–130%
Compatible instruments	ABI 7500, Agilent Mx3000P, Bio-Rad CFX-96, and compatible qPCR instruments
Storage	–40°C to –18°C
Transport	Dry ice
Shelf life	12 months when stored as directed

Note: Product label, user manual, and lot-specific Certificate of Analysis govern release and use.

PRODUCT INFORMATION

Ordering information

Catalog No.	Product name	Size
CRH00-1101	ResiQuant® Ready-to-use Quantitative E. coli DNA Kit (Taqman)	50 reactions
CRH00-1102	ResiQuant® Ready-to-use Quantitative E. coli DNA Kit (Taqman)	100 reactions

Catalog availability and pack sizes should be confirmed at the time of order.

Recommended assay workflow

1 Plan controls and reactions Use five standards, a no-template control (NTC), negative extraction control (NEG), test samples (TS), and extraction/recovery controls (ERC) as applicable. Run reactions in triplicate.

2 Prepare qPCR reaction mix For each 30 µL reaction, combine 15 µL 2× E. coli qPCR Mix and 5 µL 6× E. coli Detection Mix. Dispense 20 µL of the reaction mix per well; prepare 10% excess volume.

3 Add template Add 10 µL of each standard, control, or purified sample DNA to the assigned well. Seal the plate or PCR strip and briefly centrifuge.

4 Run and analyze Use an appropriate qPCR program, assess amplification curves and standard-curve quality, and evaluate IC performance before reporting results.

Suggested thermal profile

Step	Temperature	Time	Cycles
UNG incubation	37°C	300 s	1
Initial denaturation	95°C	300 s	1
Denaturation	95°C	15 s	40
Annealing/extension + fluorescence	60°C	40 s	40

Set reaction volume to 30 µL. Collect fluorescence in FAM for E. coli DNA and HEX/VIC for IC; select ROX as passive reference when supported.

Quality-control guidance

- Standard curve: $R^2 \geq 0.98$; slope -3.60 to -3.10 ; amplification efficiency 90%–110%.
- Internal control (IC): Ct CV $\leq 5\%$.
- NTC and NEG: Ct ≥ 38 or no Ct. Verify expected sigmoidal amplification-curve behavior.
- Use dedicated reagent-preparation, sample-preparation, and PCR-amplification areas to help prevent cross-contamination.

Storage, transport and intended use

Storage	Store at -40°C to -18°C .
Transportation	Transport on dry ice.
Shelf life	12 months under specified storage conditions.
Package contents	Assay kit only; instruments and consumables are not included.

INTENDED USE For research and manufacturing use only. Not intended for diagnostic or therapeutic use. This general datasheet does not replace the product label, user manual, Certificate of Analysis, or Safety Data Sheet.