# AccuRT Genomic DNA Removal for Accurate Reverse Transcription

AccuRT DNA Removal Kit is a powerful method to completely eliminate the contaminating genomic DNA present in RNA samples. The use of AccuRT ensures accurate analysis of gene expression profiles.

**abm** offers the AccuRT Genomic DNA Removal Kit in a stand-alone format that is compatible with all **abm** cDNA Synthesis Kits (and other commercial kits) or, alternatively, in pre-packaged combinations for convenient downstream reverse transcription.

## AccuRT Product Line

- **EasyScript™ cDNA Synthesis Kit**
  (with AccuRT Genomic DNA Removal Kit)
  Cat. No.: G491
- **5X All-in-One RT MasterMix**
  (with AccuRT Genomic DNA Removal Kit)
  Cat. No.: G492

## AccuRT Genomic DNA Removal Kit

- **AccuRT Genomic DNA Removal Kit**
  Cat. No.: G488

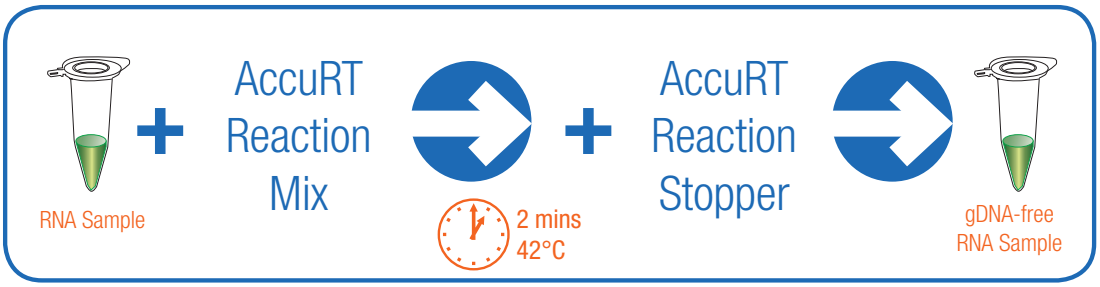
## cDNA Synthesis Kits

- **EasyScript™ cDNA Synthesis Kit**
  Cat. No.: G233, G234
- **EasyScript™ cDNA Synthesis SuperMix**
  Cat. No.: G451, G452
- **EasyScript Plus™ cDNA Synthesis Kit**
  Cat. No.: G235, G236
- **EasyScript Plus™ cDNA Synthesis SuperMix**
  Cat. No.: G453, G454
- **5X All-in-One RT MasterMix**
  Cat. No.: G485, G486, G490

The presence of genomic DNA (gDNA) in RNA preparations will lead to false-positive results and misrepresentation of gene expression levels. Common methods of gDNA removal, such as DNase I treatment and intelligent primer design, still have their limitations and can result in RNA degradation and insufficient PCR amplification.

## Simple, Efficient and Convenient Set-up

**abm**'s AccuRT gDNA Removal Kit is the quick and easy solution to accurate reverse transcription. The elimination of gDNA is completed within 10 minutes without compromising the RNA quality. This kit is fully compatible with any commercial cDNA synthesis kit of the end user's choice.




## Complete gDNA Removal

gDNA contamination in RNA samples is a common problem that can interfere in downstream applications such as qPCR. Ensuring complete gDNA removal allows for more accurate gene expression analysis.

**abm**'s AccuRT gDNA removal kit demonstrates effective and absolute removal of gDNA in the treated sample.

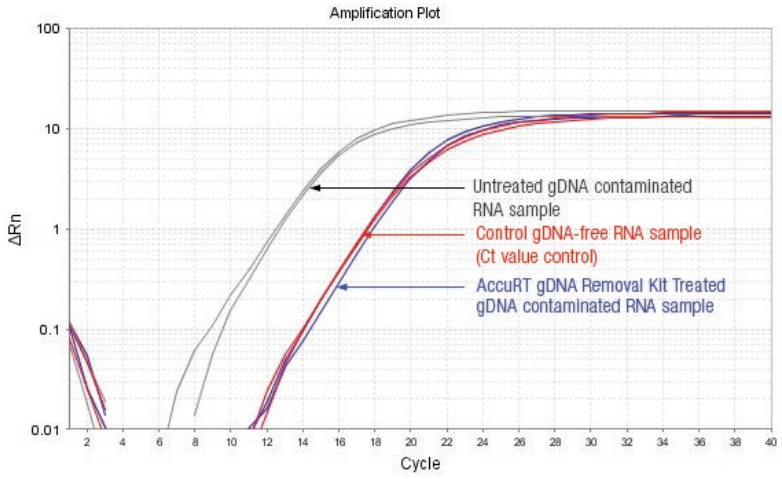
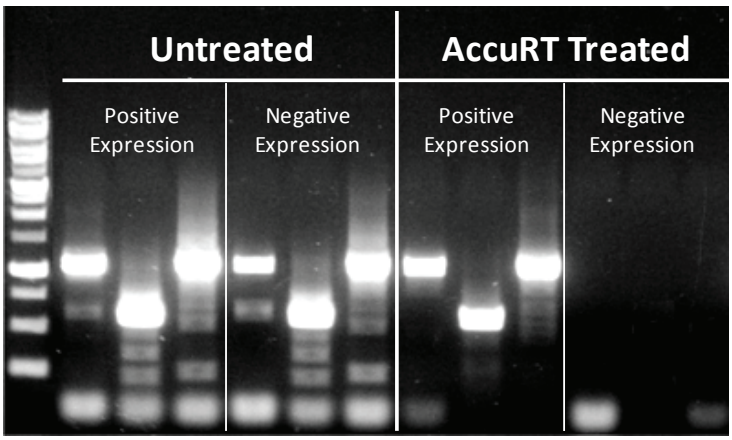



**Figure 1: gDNA removal in two-step RT-qPCR**
Two-step RT-qPCR: 0.2 µg of pure total human RNA was mixed with 1 µg of human gDNA; AccuRT treated, untreated and gDNA-free control samples (0.01 mg of pure total human RNA only) were reverse-transcribed in a 20 µl RT reaction. 1 µl of RT product was then used directly in qPCR; human GAPDH target was amplified.

## No False-Positives

False-positive outcomes will have a detrimental impact on your research, often leading to unnecessary follow-up experiments and incorrect data analysis.

**abm**'s AccuRT gDNA Removal Kit removes the risk of false-positives in end-point PCR amplification with a short RNA sample treatment, ultimately saving you time, reagents and cost.




**Note:** Both 'pre-treated' RNA samples were contaminated with gDNA.

**Figure 2: Efficient DNA removal in two-step RT-PCR**
Two-step RT-PCR: A comparison of RNA samples that were positive or negative for gene expression (0.1 µg/rxn) were either AccuRT treated or untreated then reverse-transcribed in a 20 µl RT reaction. 1 µl of RT product was then used directly in PCR, various primer sets for mTor gene were used for the amplification.
**Results:** The presence of gDNA in the untreated samples leads to a false-positive result in the gene expression analysis.

## High Efficiency and Complete RNA Protection

DNase I treatment for gDNA removal requires a heat inactivation step that can lead to unwanted degradation of RNA in your samples.

The advanced formulation of **abm**'s AccuRT gDNA Removal Reaction Mix facilitates efficient and total removal of gDNA, while the 'Reaction Stop' solution will quickly and effectively terminate the reaction.

This kit results in absolutely no complications for downstream DNA amplification steps.

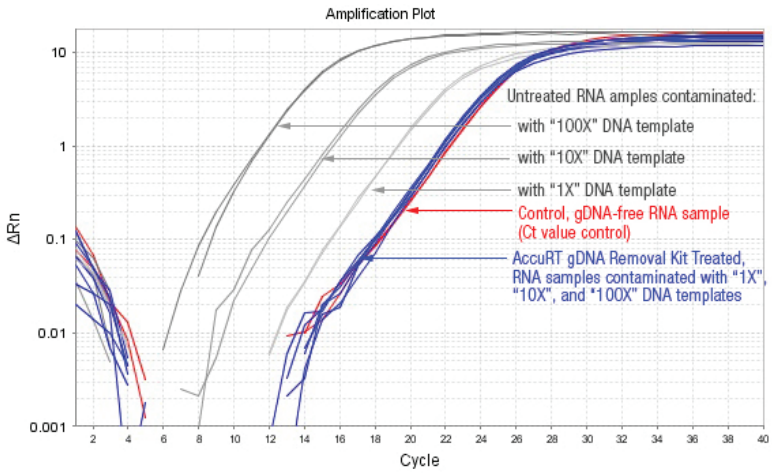
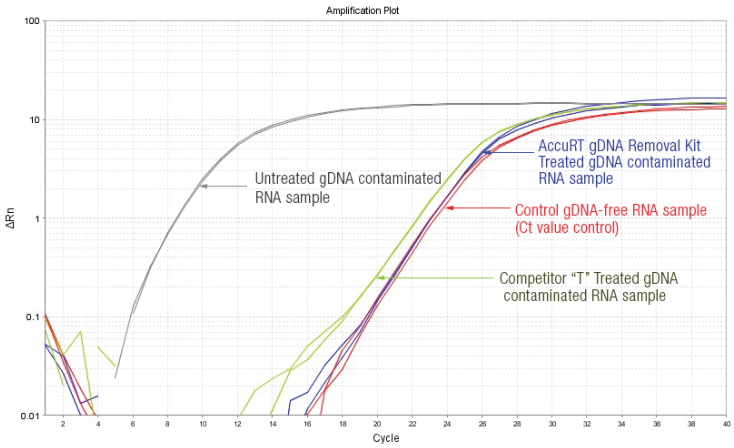



**Figure 3: Efficient DNA removal in two-step RT-qPCR**
Two-step RT-qPCR: 0.01 µg of pure total human RNA was mixed with serial-diluted human GAPDH qPCR product ("1X", "10X", and "100X" amounts); AccuRT treated, untreated and gDNA-free control samples (0.01 mg of pure total human RNA only) were reverse-transcribed in a 20 µl RT reaction. 1 µl of RT product was then used directly in qPCR; human GAPDH target was amplified.

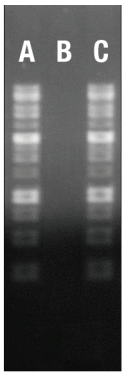
## Market Leading Performance




**abm**'s AccuRT gDNA Removal Kit out-performs the current market leading gDNA elimination kit. In-house comparative testing showed that only those samples treated with **abm**'s AccuRT gDNA Removal Kit were able to yield identical Ct values to the gDNA-free control, thus demonstrating the kit's outstanding performance.

**Figure 4: Market leading performance**
Two-step RT-qPCR: 0.005 µg of pure total human RNA was mixed with "X" amount of human GAPDH qPCR product; AccuRT treated, Competitor "T" treated, untreated and gDNA free control samples (0.01 mg of pure total human RNA only) were reverse-transcribed in a 20 µl RT reaction. 1 µl of RT product was then used directly in qPCR; human GAPDH target was amplified.

## No Enzymatic Inhibition of PCR




A major concern with the use of any DNA removal kit is the potential interference in downstream applications from residual enzymatic activities.

**abm**'s AccuRT enzyme has a very potent DNA removal activity, allowing unparalleled and efficient gDNA removal regardless of the amount of gDNA present in your RNA samples. When coupled with our optimized Reaction Stopper, AccuRT's activity is silenced completely and the treated sample is ready for all downstream applications.

**Figure 5: Potent Activity of AccuRT's Reagents**
2 µl of **abm** 1kb Plus Opti-DNA Marker was removed by AccuRT gDNA Removal Kit. Lane A: DNA ladder control, Lane B: DNA removed by AccuRT treatment, Lane C: AccuRT Reaction in the presence of AccuRT Reaction Stopper and 1X **abm**'s RT buffer (inhibition control).

# Technical Support

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