

High Pure FFPE RNA Micro Kit

Simplify RNA isolation from formalin-fixed, paraffin-embedded tissue samples

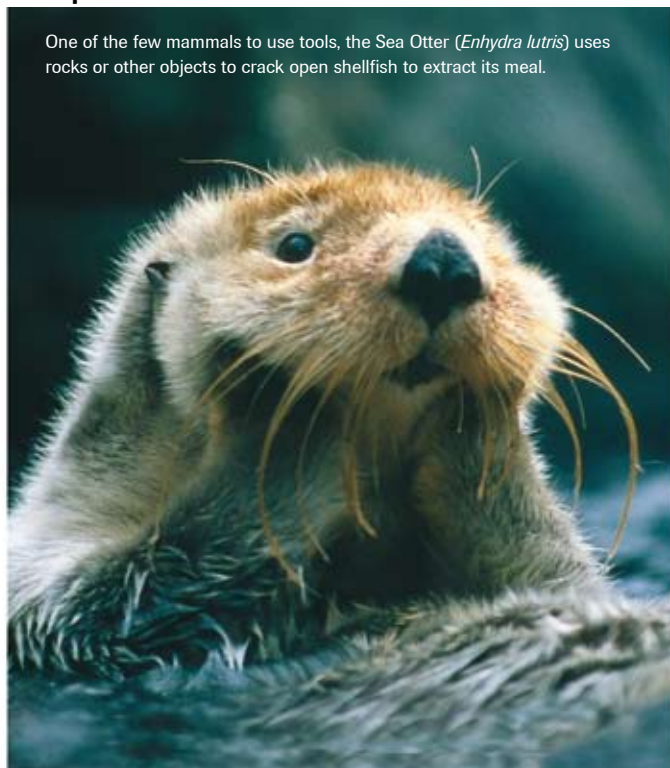
Maximize your yields of total RNA from formalin-fixed, paraffin-embedded (FFPE) tissue samples with the **High Pure FFPE RNA Micro Kit** from Roche Applied Science.

Use a simple, rapid protocol and an innovative column design to obtain contamination-free RNA from 1-10 µm FFPE tissue sections. Recover highly concentrated, purified RNA for direct use in RT-PCR applications.

Accelerate research studies by easily isolating RNA from valuable collections of archived FFPE tissues, such as human research samples that have associated clinical history, disease progression, drug response, and toxicology information.

Experts at Extraction

One of the few mammals to use tools, the Sea Otter (*Enhydra lutris*) uses rocks or other objects to crack open shellfish to extract its meal.



■ Generate consistent, concentrated yields.

Obtain a highly concentrated (10 µl) eluate of purified RNA (Table 1) with excellent recovery (≥ 80%).

■ Use a rapid protocol to obtain contaminant-free RNA.

Process samples quickly with a straightforward protocol featuring on-column DNase treatment and a novel column design that prevents carryover contamination (Figure 1).

■ Obtain high-quality template RNA that is ready for qRT-PCR.

Isolate a broad range of RNA fragment sizes (Figure 2) that deliver outstanding performance in qRT-PCR applications (Figure 3).

Achieve excellent recovery

Kit comparison	High Pure FFPE RNA Micro Kit	Supplier 1	Supplier 2
5 µm slice of			
Xenograft	1.5 µg OD 2.0	1.4 µg OD 1.9	n.a.
Rat brain	1.0 µg OD 2.0	0.9 µg OD 1.9	1.2 µg OD 2.1
Breast tumor 1	1.0 µg OD 1.9	0.8 µg OD 1.8	0.6 µg OD 2.1
Breast tumor 2	3.5 µg OD 2.0	2.4 µg OD 2.0	3.1 µg OD 2.0

Table 1: Obtain both high yield and purity with the High Pure FFPE RNA Micro Kit. Performance results showing the yield and purity (OD 260/280 ratio) of RNA recovered from 5 µm slices of different FFPE research samples (mean value of triplicates) using the High Pure FFPE RNA Micro Kit or kits from other suppliers.

Efficiently purify RNA from formalin-fixed, paraffin-embedded tissue samples

Benefit from the High Pure FFPE RNA Micro Kit's novel spin-column format (Figure 1) and optimized buffers to rapidly obtain highly purified RNA.

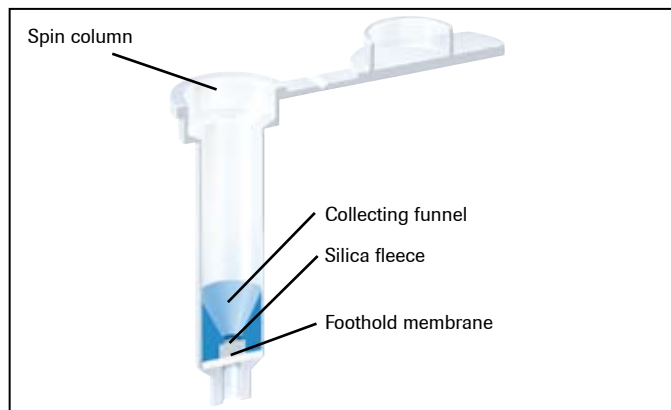


Figure 1: Avoid carryover contamination with an innovative column design. This cross-sectional view of the High Pure FFPE RNA Micro Kit column shows the special reducing device (blue area) that allows easy central loading of sample and up to 500 µl of buffer. The reducing device's collection funnel is designed to prevent carryover contamination and creates a non-slip cavity for the column's silica membrane.

Purify a broad range of RNA fragment sizes

Isolate and purify even small RNA fragments (Figure 2) using a fast and convenient workflow. The High Pure FFPE RNA Micro Kit enables purification of the smaller RNA fragments (down to 150 bases in length) that are expected from FFPE tissue due to degradation during fixation.

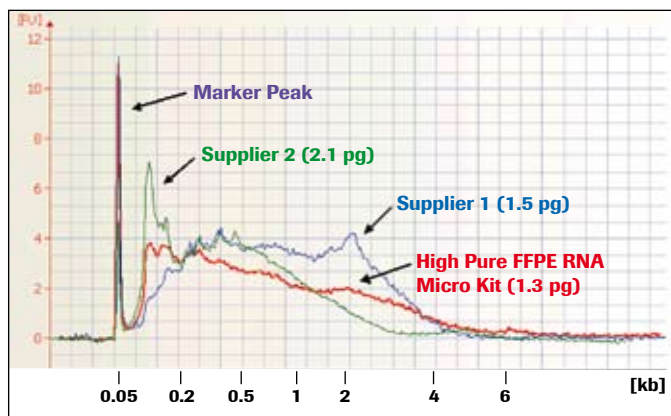


Figure 2: Isolate a wide range of RNA fragment sizes from 150 to 4000 bases in length. RNA was isolated from a 5 µm section of an FFPE breast tumor research sample using either the High Pure FFPE RNA Micro Kit or a kit from other manufacturers (Suppliers 1 and 2). The electropherogram shows no intact 18S or 28S RNA. The green line shows that Supplier 2's kit purifies most degraded RNA, but not longer fragments. The blue graph shows that Supplier 1's kit purifies large fragments, but loses smaller fragments. The High Pure FFPE RNA Micro Kit (red line) purifies the entire range of RNA, including both small and large fragments.

Obtain excellent performance in qRT-PCR

Generate template RNA with high purity and optimal concentration for direct use in RT-PCR applications such as relative quantification of mRNA with the LightCycler® Real-Time PCR System (Figure 3).

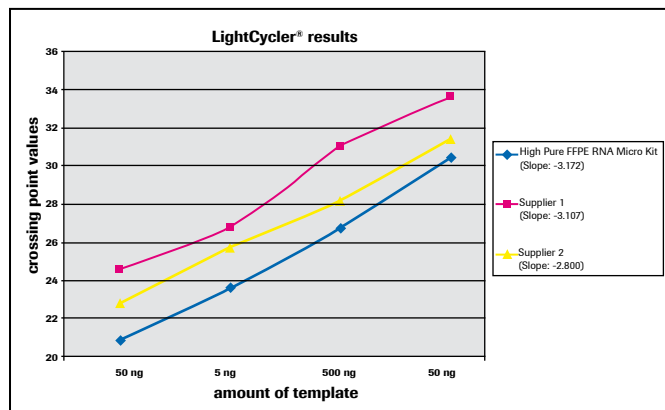


Figure 3: Generate high-quality template RNA with excellent linearity in qRT-PCR. Measurement of yield, purity, and size distribution are not the final measures of RNA quality. The isolated RNA is needed in sufficient quantity and quality to amplify the desired target region for qRT-PCR. In order to evaluate the quality of the isolated RNA, a two-step qRT-PCR assay on a 3 log dilution row was performed. Four different RNA amounts (50 ng, 5 ng, 500 pg, 50 pg) of the same samples were subjected to qRT-PCR. A β2 microtubulin-specific qRT-PCR using the LightCycler® 1.5 Instrument with SYBR Green I was used in this assay. The results with the High Pure FFPE RNA Micro Kit show that there is a clear correlation between RNA amounts and crossing points, and that high sensitivity is shown with early crossing points.

Product	Cat. No.	Pack Size
High Pure FFPE RNA Micro Kit	04 823 125 001	up to 50 isolations

For more information about the **High Pure FFPE RNA Micro Kit** and other products for nucleic acid isolation and purification, visit www.roche-applied-science.com/napure

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