

Biospin miRNA Extraction Kit

■ | Product Introduction

The Biospin miRNA Extraction Kit is designed for the efficient isolation of high-quality total RNA, including small RNAs such as microRNAs (miRNAs), from a broad range of biological samples, including animal tissues, cultured cells, blood and bacteria.

Based on spin-column purification technology, the kit enables reliable and reproducible RNA recovery while retaining RNA molecules of 18 nt and above, making it suitable for miRNA detection, RT-qPCR, Northern blotting, RNase protection assays, cDNA library construction, and microarray analysis.

■ | Principle

During the workflow, samples are first processed with BIOZOL Reagent. Following the addition of chloroform or the chloroform alternative BSC141 CS Reagent, RNA is separated from DNA and proteins. Ethanol is then added to facilitate RNA binding to the spin column, followed by washing and elution to obtain purified RNA.

■ | Specification

Specification	Details
Sample Type	Animal tissues, cultured cells, plasma, serum and bacteria
Isolation Technology	Spin-column
Starting Material Amount	Cells: $\leq 10^6$, Plasma: $\leq 100\ \mu\text{L}$, Serum: $\leq 100\ \mu\text{L}$, Tissue: $\leq 30\ \text{mg}$
Time	30 min
Storage Condition	BIOZOL Reagent should be stored at 2-8°C, others at room temperature
Certificate	For research use only

Performance Data

Case 1

RNA was extracted from 1×10^6 293T cells using the Biospin miRNA Extraction Kit and a commercial competitor kit. RNA concentration and purity were evaluated, and miRNA recovery was further assessed by qPCR.

Kit	Conc. (ng/ μ L)	A260/A280	A260/A230
Competitor	159.5	2.04	0.50
Bioer	450.5	2.00	1.78

Table 1-1. RNA Concentration and Purity

Conclusion: Biospin delivered a higher RNA concentration and favorable purity ratios compared with the competitor kit.

Ct Targets	Let-7a Gene		miRNA-7a Gene		miRNA-16 Gene	
	Competitor	Bioer	Competitor	Bioer	Competitor	Bioer
cDNA Dilution						
10-fold serial dilution	20.75	20.66	20.25	19.42	17.58	17.20
100-fold serial dilution	23.08	22.94	22.53	21.70	20.10	19.46
1000-fold serial dilution	26.24	25.88	25.73	24.75	23.13	22.48
10000-fold serial dilution	29.67	28.64	29.18	27.36	26.84	25.38

Table 1-2. miRNA qPCR Performance

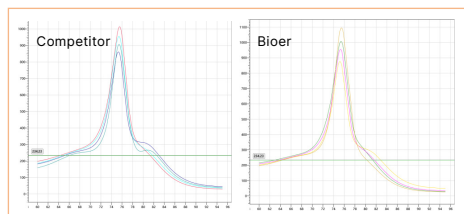


Figure 1-1. Melting Curves of Let-7a Gene Amplification

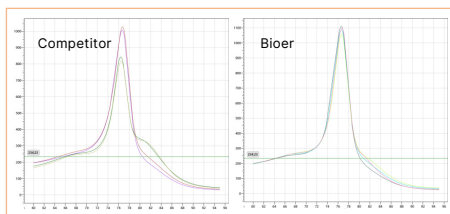


Figure 1-2. Melting Curves of miRNA-7a Gene Amplification

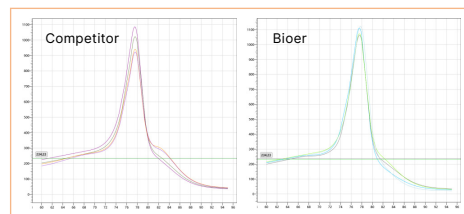


Figure 1-3. Melting Curves of miRNA-16 Gene Amplification

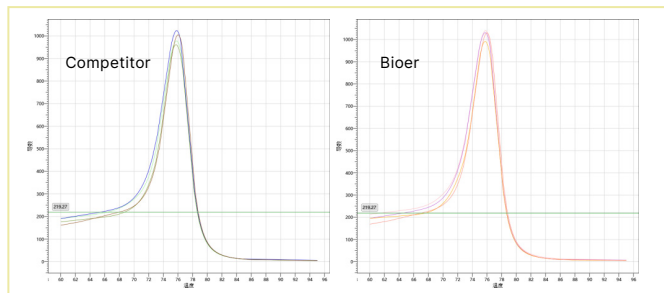
Results: Biospin delivered higher RNA purity, earlier miRNA qPCR Ct values, and improved miRNA recovery compared with the commercial competitor from 293T cells, demonstrating efficient and reliable miRNA extraction.

Case 2

A 10 mg mouse liver sample was processed for RNA extraction. The concentration and purity of the extracted RNA were evaluated, and miRNA recovery was further assessed by qPCR. The results are shown below:

Kit	Conc.(ng/ μ L)	A260/A280	A260/A230
Competitor	159.5	2.04	0.50
Bioer	450.5	2.00	1.78

Table 2-1. RNA Concentration and Purity of Mouse Liver Extracts



Ct Targets	Let-7a Gene	
	Let-7a Gene	Bioer
cDNA		
10-fold serial dilution	16.13	14.62
100-fold serial dilution	18.95	17.52
1000-fold serial dilution	22.38	20.62
10000-fold serial dilution	25.93	24.25

Conclusion: The Biospin miRNA Extraction Kit delivers high RNA yield, good purity, and efficient miRNA recovery from mouse liver samples, providing reliable RNA quality for downstream miRNA analysis.

Ordering Information

Product Name	Cat. No.	Package	Storage Condition
Biospin miRNA Extraction Kit	BSC64S1	50T	BIOZOL reagent should be stored at 2-8°C, others at room temperature
	BSC64M1	100T	

For Research Use Only. Not for use in diagnostic procedures.



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