

Comparison of FFPE-Kits for RNA-Isolation & sRNA-Seq



FormaPure XL Total Nucleic Acid Extraction Kit

- Beckmann Coulter
- Price: 1,025.00 € (+)
- Usability: +++
- Speed: ++
- Elution Volume: 30 µl (++)
- Extras:
 - DNA extraction possible in parallel

miRNeasy FFPE Kit - Qiagen

- Qiagen
- Price: 575,00 € (++)
- Usability: +
- Speed: +
- Elution Volume: 14-30 µl (+++)

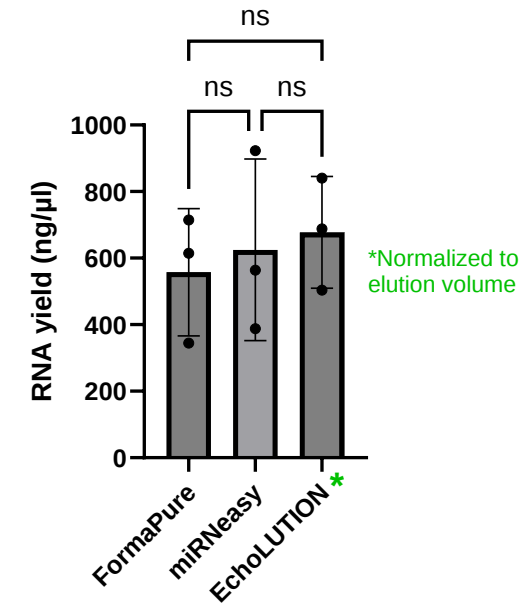
EchoLUTION FFPE RNA Kit

- BioEcho
- Price: 409,00 € (+++)
- Usability: +++
- Speed: +++
- Elution Volume: 75 µl (+)

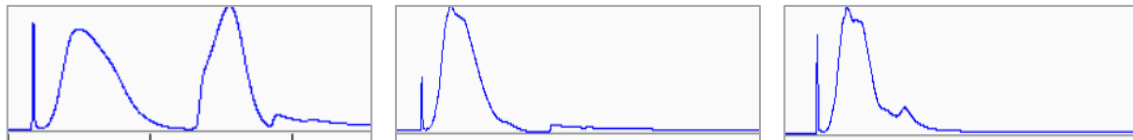
Comparison of RNA Yield

	RNA QC						
	Elution volume [μL]	RNA yield [μg]	Nanodrop			Fragment / Bio-Analyzer	
			Conc. [ng/μL]	A260/A280	A260/A230	Conc. (ng/ul)	RQN
FormaPure Beckman Coulter	30	18,4	614,6	2,0	1,9	272,5	10,0
	30	10,3	344,4	1,9	1,4	197,5	1,1
	30	21,4	714,2	1,9	1,2	387,1	5,4
miRNAeasy FFPE Kit Qiagen	30	27,7	923,0	1,9	1,8	1046,0	2,4
	30	11,6	387,5	2,0	2,0	282,0	2,4
	30	16,9	563,5	2,0	2,1	412,0	2,5
EchoLUTION FFPE RNA Kit BioECHO	75	15,2	202,6	1,9	1,7	216,0	2,4
	75	20,0	266,5	2,0	1,9	295,0	2,3
	75	23,7	315,6	2,0	1,9	360,0	2,4

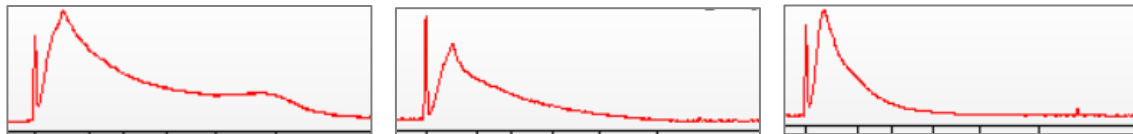
Comparison RNA Concentrations



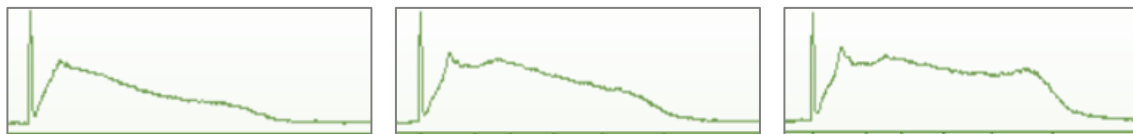
FormaPure



miRNAeasy



EchoLUTION



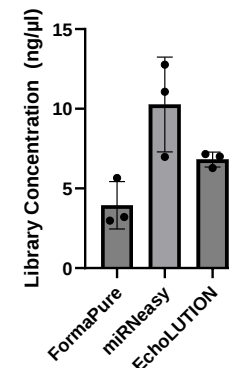
Conclusion:

- Similar yield between all samples
- Comparable quality scores
- Least optical degradation (Electropherograms) in EchoLUTION

Comparison of cDNA Libraries

	Molarity [nM]	EP-PCR cycle #	Fragment Analyzer Evaluation - Smear analysis		
			Range	ng/uL	nmole/L
FormaPure Beckman Coulter	59,51	15	135 bp to 153 bp	5,66	64,50
	33,70	15	135 bp to 153 bp	3,20	36,67
	31,58	15	135 bp to 153 bp	2,98	34,18
miRNAeasy FFPE Kit Qiagen	73,99	15	135 bp to 153 bp	6,98	80,07
	112,52	15	138 bp to 158 bp	11,07	122,07
	134,39	15	135 bp to 153 bp	12,77	146,01
EchoLUTION FFPE RNA Kit BioECHO	73,63	15	135 bp to 153 bp	7,00	79,88
	74,85	15	135 bp to 153 bp	7,16	81,45
	53,17	15	135 bp to 153 bp	6,28	57,84

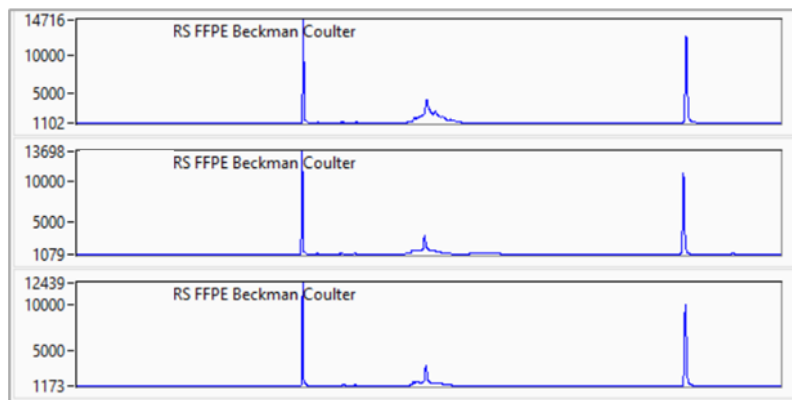
Comparison Library Concentrations



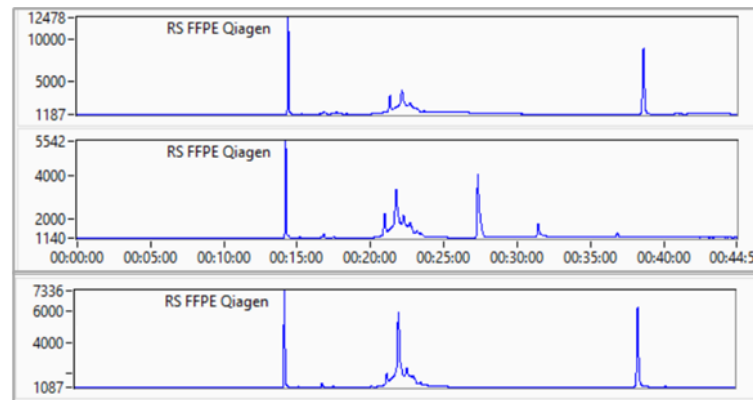
Conclusion:

- Similar library shapes in all samples

FormaPure



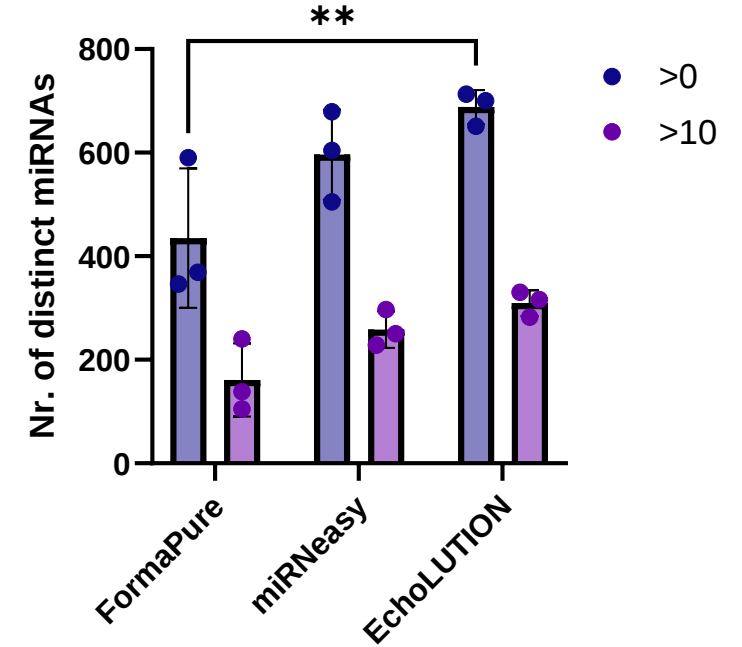
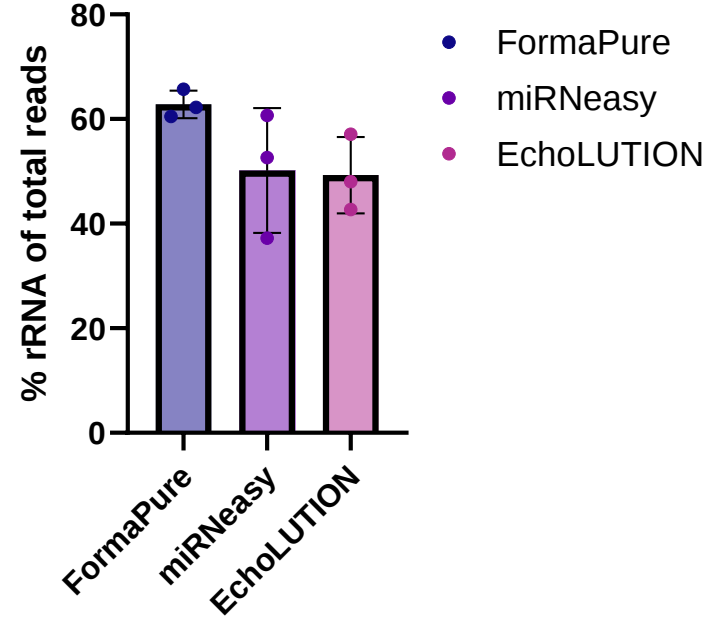
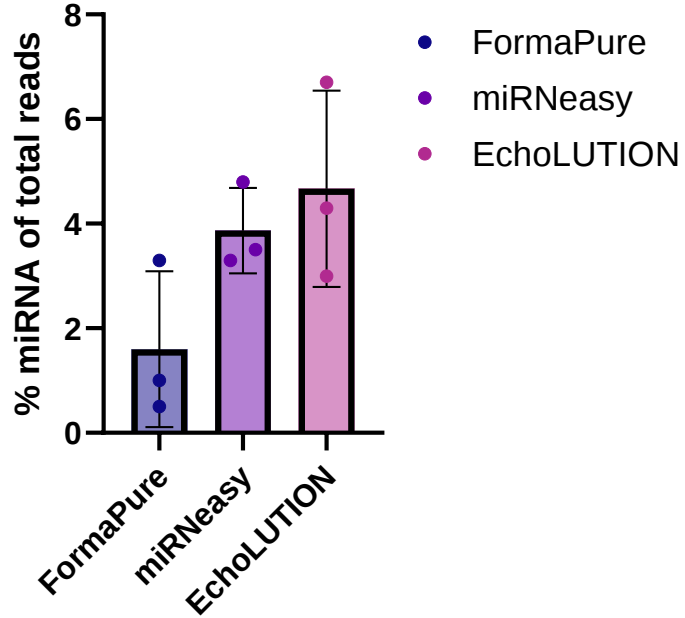
miRNAeasy



EchoLUTION



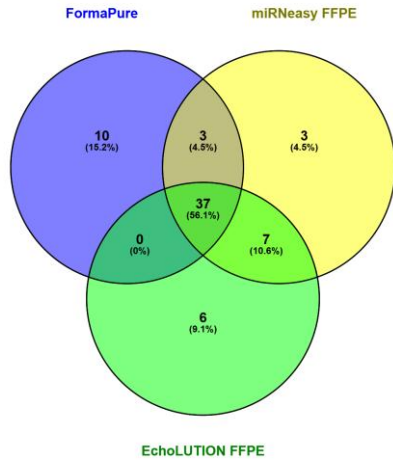
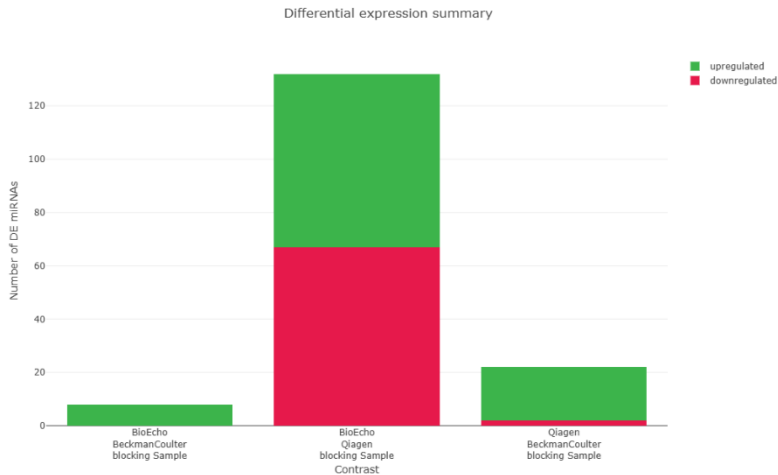
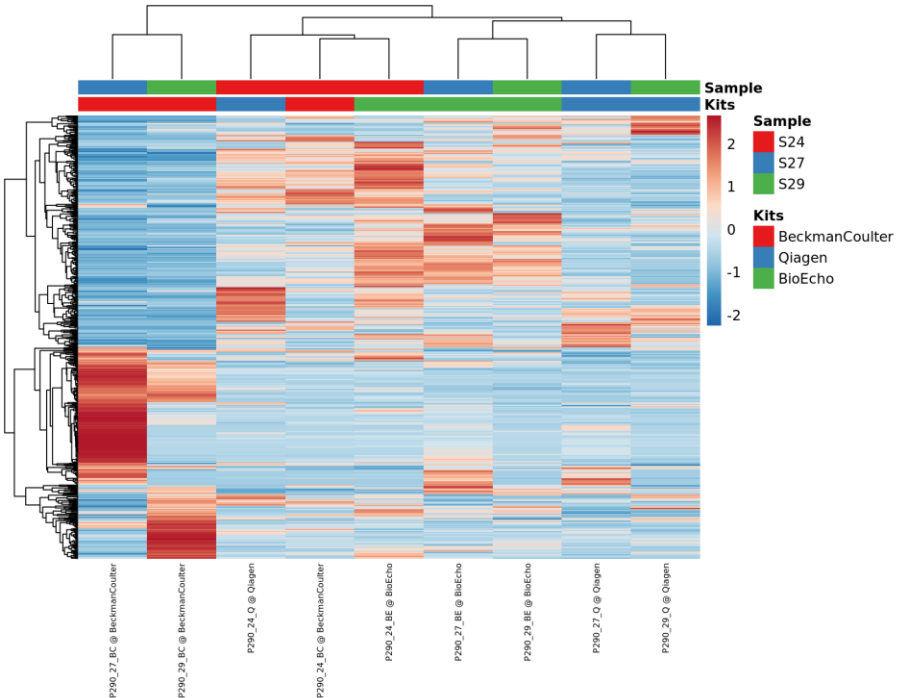
Comparison of Sequencing Data



Conclusion:

- EchoLUTION detects highest % of miRNA reads and lowest % of rRNA fragments
- EchoLUTION detects most individual miRNAs

Comparison of Sequencing Data



Conclusion: EchoLUTION & Qiagen show similar miRNA profiles & detect significantly more miRNAs than FormaPure

Performance Summary



	FormaPure	miRNeasy FFPE	EchoLUTION
Applicability	2	1,75	2,5
RNA Quality	2	2	3
Library Quality	3	3	3
NGS Output	1	2	3
Total	8	8,75	11,5

Usage of EchoLUTION as future standard FFPE RNA-Isolation Kit recommended