



EchoLUTION DNA 96-well Extraction – Initial Product Information

March 2019



BioEcho Life Sciences
Next Generation Sample Preparation Technologies

Overview EchoLUTION DNA Extraction Kits



Single Spin Kits	96-well plate Kits
EchoLUTION Blood DNA Micro Kit (10 / 50 / 250)	& New EchoLUTION Blood DNA 96 Kit (2 x 96/8 x 96)
EchoLUTION Blood DNA HiYield Kit (10 / 50 / 250)	
EchoLUTION Tissue DNA Micro Kit (10 / 50 / 250)	& New EchoLUTION Tissue DNA 96 Kit (2 x 96/8 x 96)
EchoLUTION CellCulture DNA Kit (10 / 50 / 250)	
EchoLUTION Plant DNA Kit (10 / 50 / 250)	& New EchoLUTION Plant DNA 96 Kit (2 x 96/8 x 96)

New Kits will be launched by April 15th

For more information about the single spin solutions, please check:

<https://www.bioecho.tools/EU/>



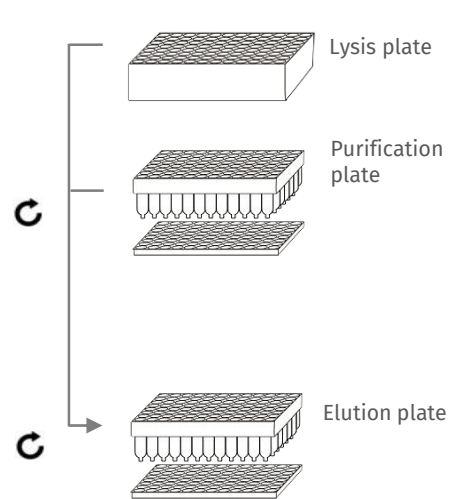
EchoLUTION 96-Well DNA Extraction – Workflow

EchoLUTION 96-well processing

- 1. Add protease and lysis buffer to sample*. Mix.
- 2. Incubate.
- 3. Add Solution CS & mix.

meanwhile:
Prepare plate.
Centrifuge.

- 4. Transfer sample to plate.
- 5. Centrifuge. DNA is in eluate.



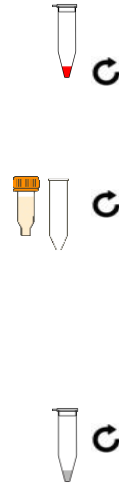
DURATION: 45 min Blood/Tissue
80 min Plant
5 min hands-on time, 2 centrifugation steps

EchoLUTION Spin column/manual processing

- 1. Add protease and lysis buffer to sample. Mix.
- 2. Incubate.
- 3. Add Solution CS & spin.

meanwhile:
Prepare column.
Centrifuge.

- 4. Transfer sample to column.
- 5. Centrifuge. DNA is in eluate.



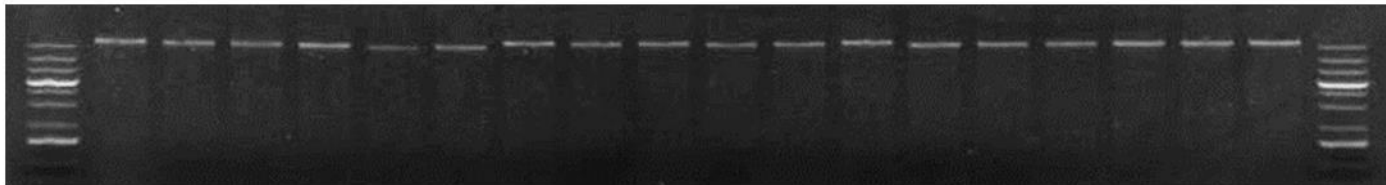
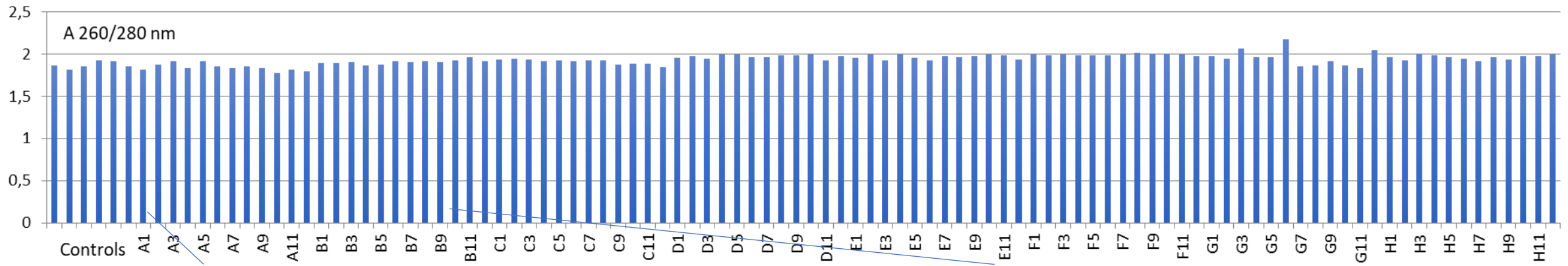
DURATION: 20 – 40 min
3 min hands-on time, 3 centrifugation steps



*For EchoLUTION Plant DNA 96 Kit: Bead beating of samples needs to be performed before

EchoLUTION Tissue DNA 96 – Data (1)

- EchoLUTION Tissue DNA 96 (10 mg fish fin; trout) – Reproducible Results (Yield, concentration, $OD_{280/260\text{ nm}}$)



Trout fin sample 96 preparations:
 \emptyset concentration: 62 ng/ μ l
 \emptyset yield: 6.2 μ g
 \emptyset $OD_{280/260\text{ nm}}$: 1.92

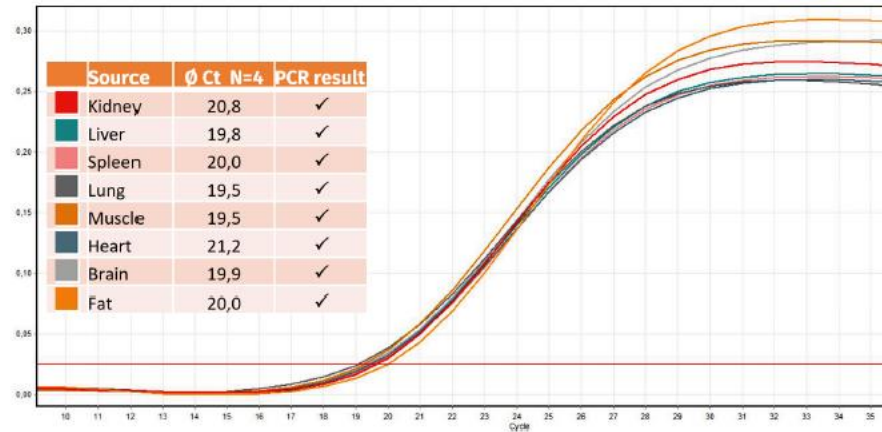
EchoLUTION Tissue DNA 96 – Data (2)

EchoLUTION Tissue DNA 96 (10 mg from 8 different mouse tissue samples)



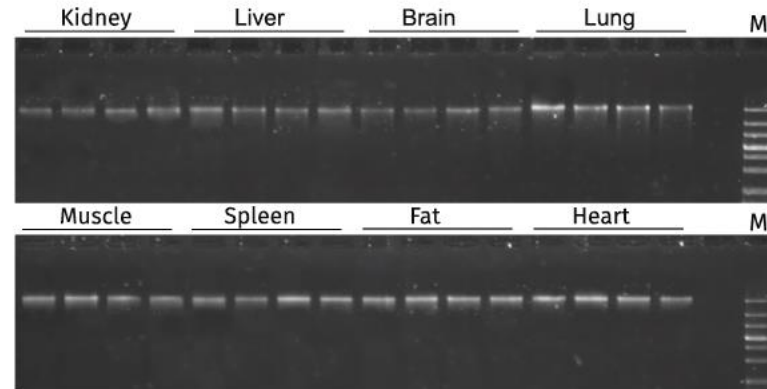
96 well DNA EchoLUTION extraction:

4 randomly chosen eluates (1 µl each) from 8 x 12 different mouse organs purified were loaded onto an agarose gel and applied to qPCR detection. All samples were easily detected with a standard deviation < 0.3 Ct.



Mouse tissue gDNA – qPCR detection:

- Highly reproducible
- Standard dev. <0.3 Ct per sample type



Mouse tissue gDNA extraction

- Success rate 96 wells: 100%
- Highly reproducible yields from any tissue type
- HMW intact DNA

EchoLUTION Plant DNA Kits – Data



Species	Type of tissue	Typical DNA yield [µg]
Parsley	Leaf	5.7
Basil		2.6
Tomato		1.7
Potato		5.4
Apple		2.0
Kiwi		1.1
Quince		4.3
Morello Cherry		5.0
Lemon		1.1
Petunia		0.6
Orchid		0.5
Pine		0.3
Piceus		0.9
Cucumber		0.9
Leek		10.1
Bell pepper		0.9
Arabidopsis		1.4
Nicotiana		2.1
Tomato		Fruit
Garlic	3.0	
Onion	3.1	
Wheat	Seed ¹	2.8
Barley		5.1
Sun flower		2.6
Rape		2.3
Corn (maize)		0.9
Parsley	Dried tissue ²	1.7
Dill		5.7
Parsley	Frozen tissue ³	2.6
Dill		3.4

➤ High yields of genomic DNA from different species

Typical yield of genomic DNA from 50 mg of different tissue types and various species.

1 Seeds: 50 mg lysed in 200 µl lysis volume

2 Dried tissue: preparation from dried leaf material of 50 mg fresh weight

3 Frozen tissue: preparation from frozen leaf material of 50 mg fresh weight

Data were compiled from single spin and 96-well experiments

convenience



performance

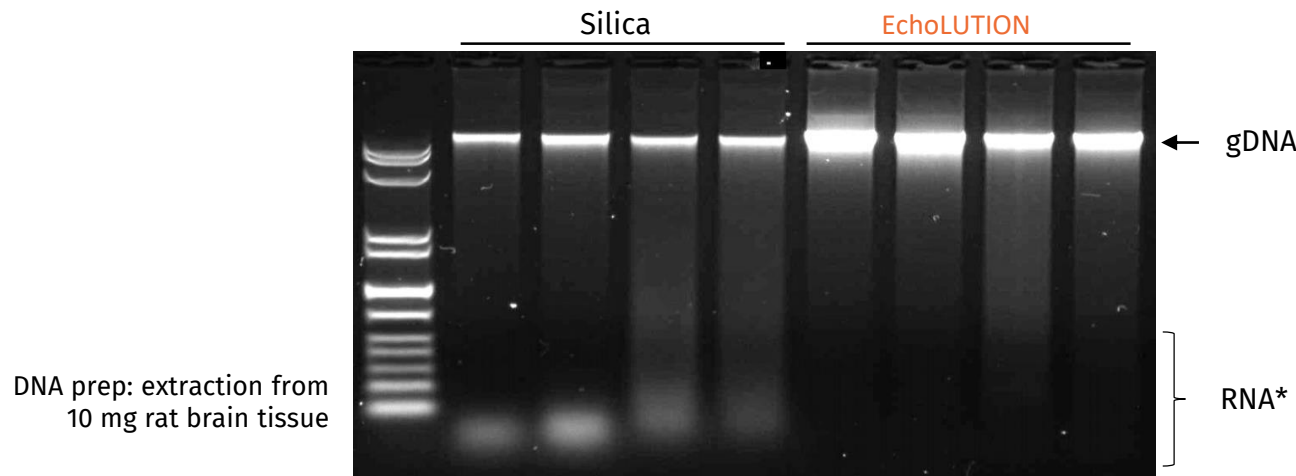


sustainability

DNA Yield Silica vs. BioEcho – Facts to be Kept in Mind

Objection: EchoLUTION DNA yield appears as low

- Silica preps frequently contain RNA and fragmented DNA in significant amounts



➤ OD readings are misleading Ø 6.7 µg !!!??? | Ø 3.4 µg

Spectrophotometric yield analysis:
Really 2x higher with Silica (?)

	Silica	EchoL
1	5.9	4.1
2	8.2	3.3
3	6.8	2.9
4	5.8	3.3
Ø	6.7 µg	3.4 µg

*OD₂₆₀ for RNA adds at least 25% more to the total amount measured than OD₂₆₀ for DNA. For small RNAs this value makes up to 100% difference, if compared to the same DNA concentration.

- EchoLUTION DNA preps are free of contaminating RNA and small DNA fragments *
- Only with EchoLUTION, OD readings are reliable and represent the true DNA concentration and yield !

Thank you!



convenience



performance



sustainability