EchoLUTION CellCulture DNA Kit

For single-step spin column purification from up to 2•10^6 cultured cells (cell lines or primary cells)

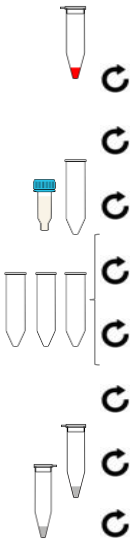
Genomic research and DNA analyses such as PCR and NGS require high-quality genomic DNA from quick procedures, no matter of sample source. The EchoLUTION CellCulture DNA Kit has been developed to obtain high-purity genomic and mitochondrial DNA from all common cultured cell lines such as HeLa, COS or HEK and also primary cells from eukaryotic origin. The purified DNA comprises of particularly long DNA fragments, free of contaminants and enzyme inhibitors like chaotropic reagents and organic solvents and is highly suitable for all downstream applications.

The EchoLUTION CellCulture DNA kit provides

- **High yield** – up to 50 µg; nearly 100 % recovery from all kinds of cells, e. g., HEK293, HeLa, NIH3T3
- **Convenience and speed** – complete in just 30 min, no tedious *bind-wash-elute* procedure
- **Superior downstream performance** – in all applications including PCR and NGS
- **High sensitivity** – no inhibitory effects of reagent carry-over
- **Sustainability** - 70 % less plastic than with Silica-based methods, no hazardous liquids

Faster preparation time & fewer steps

Silica *Bind–Wash–Elute*



1. Prepare buffers.
2. Add lysis reagents to tissue sample. Mix.
3. Incubate.
4. Short spin.
5. Add buffer, vortex.
6. Add ethanol, vortex.
7. Short spin.
8. Transfer sample to column.
9. Centrifuge.
10. Transfer to new tube. Add wash buffer 1.
11. Centrifuge.
12. Transfer to new tube. Add wash buffer 2.
13. Centrifuge.
14. Transfer to new tube.
15. Centrifuge.
16. Transfer to new tube. Add elution buffer, incubate.
17. Centrifuge. DNA is in eluate 1.
18. Transfer to new tube. Add elution buffer, incubate.
19. Centrifuge. DNA is in eluate 2.

20-21. Optional 3rd elution step.

7 minutes hands-on time per sample
8 centrifugation steps

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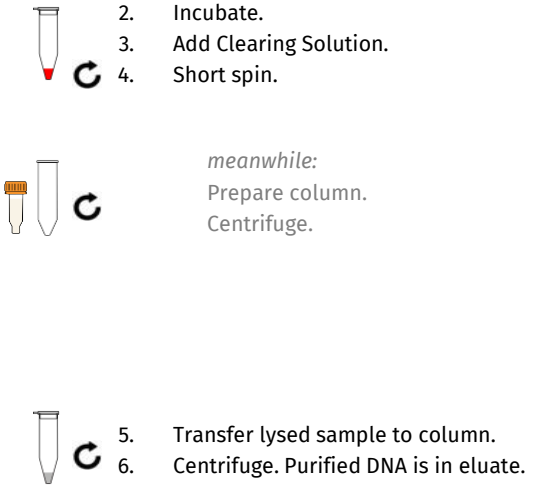

1. Add TurboLyse reagents to cell sample. Mix.
2. Incubate.
3. Add Clearing Solution.
4. Short spin.

meanwhile:
Prepare column.
Centrifuge.

5. Transfer lysed sample to column.
6. Centrifuge. Purified DNA is in eluate.

3 minutes hands-on time per sample
3 centrifugation steps

The innovative EchoLUTION workflow increases the convenience of genomic sample preparation significantly. Genomic DNA from cell culture samples is purified in a fraction of the time compared to traditional silica bind-wash-elute procedures.

Consistently high yields from various cell lines

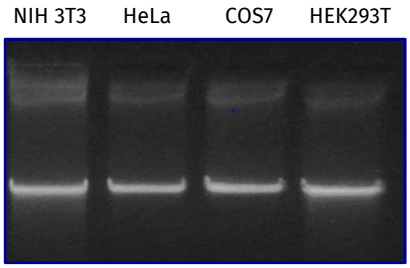

Fig. 1. DNA was purified from 1 x 10^6 cultured cells as indicated using the EchoLUTION CellCulture DNA Kit. 6 µl of the 100 µl eluates each were loaded onto the gel. Samples were normalized to approximately 100 ng per lane.

Cell line	Amount	Yield (µg DNA)
HeLa cells	1 x 10^6	8 – 13
NIH3T3	1 x 10^6	9 – 14
COS7	1 x 10^6	7 – 12
HEK293T	1 x 10^6	7 – 11
HEK293 EXPI	2 x 10^6	33.3
JEKO	1 x 10^6	12.5

Table: Genomic DNA was purified from the indicated amount of cultured cells using the EchoLUTION CellCulture DNA Kit. Yields were determined spectrophotometrically.

Easy and efficient procedure

The initial lysis step with TurboLyse Protease Mix takes place under physiological conditions where the enzyme activity of the proteases is maximal. All kinds of cells can be lysed fast and successfully – simple and with the same protocol. The need for mechanical disruption or cell line-specific optimization has been eliminated. The subsequent EchoLUTION single-step spin purification procedure combines an initial filtration, holding back potential cell debris, with an extremely efficient reverse purification. The cleared lysate is directly loaded onto the spin column. After just one single spin, the purified genomic DNA is eluted with high yields (Fig. 1 and Table) while all impurities and salts are completely removed.

Sustainable genomic research – 70% less plastic waste

Plastic waste produced from a Silica-based DNA kit and from an EchoLUTION kit (250 reactions each; including kit components and required consumables that are not part of the kits). Bags contained in BioEcho kits are cellophane-based. In numbers:

Waste	Silica	EchoLUTION
Hazardous liquid	80 ml	0
Plastic	540 g	170 g

Ordering information

EchoLUTION CellCulture DNA Kit	Reactions	Product No.
For single-step purification of genomic DNA from up to 2 x 10^6 cells from cultured and primary cells. Kits contain spin columns, buffers, enzymes, reagents and protocol.	10	010-001-010
	50	010-001-050
	250	010-001-250

Check out BioEcho's growing portfolio of nucleic acid extraction kits and accessory reagents on www.bioecho.de.

BIO ECHO evolution in biosciences

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v08/06/2018