Bioanalysis

MACHEREY-NAGEL

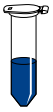
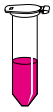
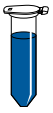
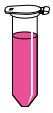
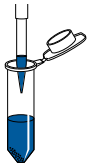
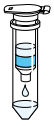
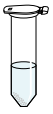
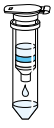
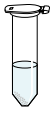
Universal reagent for RNA isolation

NucleoZOL – Do it right!

- No chloroform, no phase separation, easy handling
- High RNA yield and purity from any sample material
- Combination with proven NucleoSpin® technology available

NucleoZOL – The universal reagent for RNA isolation

Procedure

NucleoZOL			Competitor Zol
 Sample homogenization			 Sample homogenization
 Addition of water ⊕ Non-toxic			 Addition of chloroform ⊖ Toxic
 Centrifugation at RT Precipitation of contaminants			 Centrifugation at 4 °C Liquid-liquid phase seperation
 Aspiration of whole supernatant with RNA ⊕ Easy sampling of RNA ⊕ DNA and proteins remain in pellet			 Aspiration of aqueous phase with RNA ⊖ Inconvenient pipetting for phase separation ⊖ Risk of carry-over of interphase / polar phase ⊖ Refrigerated centrifuge necessary
Standard procedure		**Procedure with NucleoSpin® RNA Set for NucleoZOL**	
 Centrifugation at RT Precipitation of RNA		Binding of RNA ⊕ Short centrifugation steps (2 x 30 sec)	 Centrifugation at 4°C Precipitation of RNA
 Washing of RNA RNA in pellet		Washing of RNA	 Washing of RNA RNA in pellet
 Resuspension of RNA ⊕ No drying of RNA necessary ⊕ Quick and easy		Elution of RNA ⊕ Proven NucleoSpin® purity ⊕ Standardized procedure	 Drying and resuspension of RNA ⊖ Time-consuming drying of RNA

Summary of advantages of NucleoZOL compared to competitor Zol

The table indicates the advantages of NucleoZOL procedure compared to typical competitor Zol products. The NucleoZOL procedure offers an easy and much more convenient liquid handling. A laborious chloroform two-phase separation is not necessary. Additionally, NucleoZOL can be combined with the proven NucleoSpin® technology.

	NucleoZOL	Common competitor products
Procedure	One phase procedure minimizes the risk of contamination by carry-over	Phase separation leads to risk of DNA / protein / phenol carry-over or sample loss
Removal of DNA and proteins	Precipitation of DNA and proteins results in minor risk of contamination	Contamination possible due to difficult phase separation
Solubilization of RNA	No drying required	Time-consuming drying step required
miRNA isolation	Protocol for fractionation of small and large RNA	No protocol for selective miRNA isolation available
Handling	All steps are performed at room temperature	Necessity of refrigerated centrifuge

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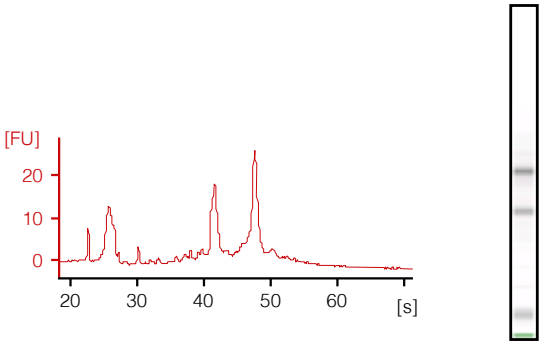
Product at a glance

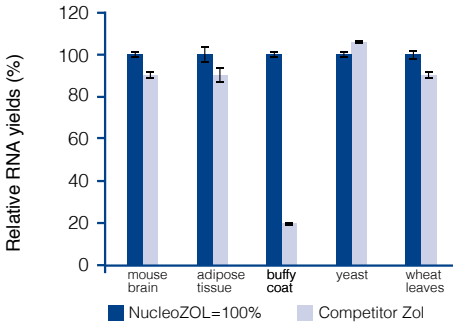
Specifications				
Technology	One-phase separation			
Sample material/mL reagent (scalable)	< 1 x 10^7 cultured cells, bacteria, and yeast, < 100 mg human / animal / plant tissue, < 0.4 mL (viral) fluids			
Fragment size	Small RNA = 10–200 nt, large RNA > 200 nt			
Typical yield	Total RNA:		Large RNA:	
	Liver:	6–8 µg/mg tissue	Liver:	5–7 µg/mg tissue
	Kidney, spleen:	3–4 µg/mg tissue	Kidney, spleen:	3–4 µg/mg tissue
	Muscle, brain, lung:	0.5–1.5 µg/mg tissue	Muscle, brain, lung:	0.5–1.5 µg/mg tissue
	Cultured cells:	4–10 µg/10^6 cells	Cultured cells:	3–8 µg/10^6 cells
A_{260}/A_{280}	1.8–2.1			
Typical RIN	> 9			
Elution volume	Flexible			
Preparation time	< 1 h			

Application data



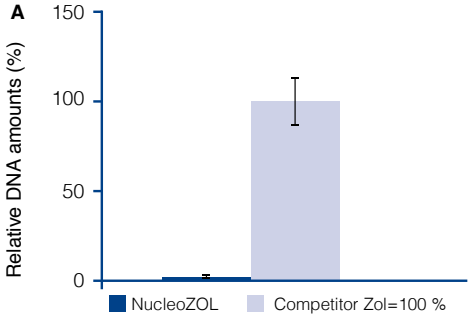
High RNA quality from fibrous tissue

Total RNA was isolated with NucleoZOL from 60 mg mouse heart tissue. RNA was analyzed on an Agilent Bioanalyzer. The RIN of 9 indicates perfect RNA quality.



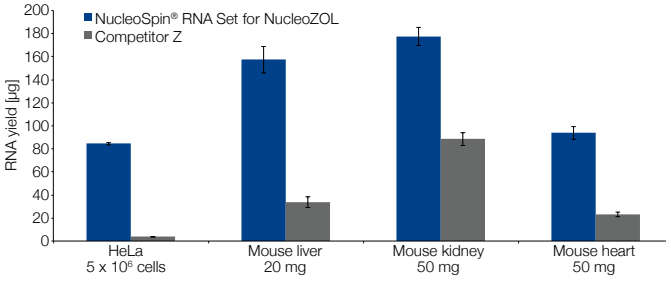
Market-leading RNA yields

RNA was extracted from different starting materials. RNA was quantified by qRT-PCR and relative yields were calculated (NucleoZOL=100 %). RNA isolation with NucleoZOL results in similar or better RNA yields compared to standard two-phase extraction methods (competitor Zol).



Low DNA contamination with NucleoZOL

DNA contamination was quantified by qPCR (competitor Zol=100 %). Compared to a standard two-phase extraction, only a minimum of DNA is carried over during purification with NucleoZOL.



High superior RNA recovery and easy handling

Total RNA was isolated with NucleoZOL combined with mini spin columns (NucleoSpin® RNA Set for NucleoZOL) or with a competitor product, that combines a liquid extraction with a column-based method (competitor Z). Total RNA yields were quantified using an Agilent 2100 Bioanalyzer™.

Product	Preps / Pack of	REF
NucleoZOL	200 mL	740404.200
NucleoSpin® RNA Set for NucleoZOL	10 / 50	740406.10 / .50

NucleoZOL – The universal reagent for RNA isolation

Do it right!

During the years, MN Bioanalysis has gained vast experience in nucleic acid purification and thus developed into highly skilled RNA experts. The MN research and the technical support team are current in all RNA applications. This has enabled MN to provide high-value RNA purification products in view of the expansive research applications.

We invite you to take advantage of the excellent RNA purification products as well as our team of scientific experts from MACHEREY-NAGEL.

- Qualified
- Customer-focused
- Reliable

Our friendly team is looking forward to give you professional advices to our wide range of products!

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Ordering information

Product	Preps / Pack of	REF
RNA from cells and tissue		
NucleoSpin® RNA Plus	10 / 50 / 250	740984.10 / .50 / .250
NucleoSpin® RNA	10 / 50 / 250	740955.10 / .50 / .250
NucleoZOL	200 mL	740404.200
NucleoSpin® RNA Set for NucleoZOL	10 / 50	740406.10 / .50
NucleoSpin® RNA XS	10 / 50 / 250	740902.10 / .50 / .250
NucleoSpin® RNA Midi	20	740962.20
NucleoSpin® 8 RNA	12 x 8 / 60 x 8	740698 / .5
NucleoSpin® 8 RNA Core Kit	48 x 8	740465.4
NucleoSpin® 96 RNA	2 x 96 / 4 x 96 / 24 x 96	740709. 2 / .4 / .24
NucleoSpin® 96 RNA Core Kit	4 x 96	740466.4
NucleoMag® 96 RNA	1 x 96 / 4 x 96	744350.1 / .4
MicroRNA		
NucleoSpin® miRNA	10 / 50 / 250	740971.10 / .50 / .250
NucleoSpin® miRNA Plasma	10 / 50 / 250	740981.10 / .50 / .250
Exosome Precipitation Solution (Serum/Plasma)*	2 mL / 12 mL / 60 mL	740398.2 / .12 / .60
Exosome Precipitation Solution (Urine)*	12 mL / 50 mL / 250 mL	740399.12 / .50 / .250
RNA, DNA, and protein		
NucleoSpin® TriPrep	10 / 50 / 250	740966.10 / .50 / .250
NucleoSpin® RNA/Protein	10 / 50 / 250	740933.10 / .50 / .250
NucleoSpin® RNA/DNA Buffer Set	100	740944
RNA from blood		
NucleoSpin® RNA Blood	10 / 50 / 250	740200.10 / .50
NucleoSpin® RNA Blood Midi	20	740210.20
NucleoSpin® 8 RNA Blood	12 x 8 / 60 x 8	740220 / .5
NucleoSpin® 96 RNA Blood	2 x 96 / 4 x 96	740225.2 / .4
Small and large RNA from FFPE samples		
NucleoSpin® totalRNA FFPE	10 / 50 / 250	740982.10 / .50 / .250
NucleoSpin® totalRNA FFPE XS	10 / 50 / 250	740969.10 / .50 / .250
RNA from plant		
NucleoSpin® RNA Plant	10 / 50 / 250	740949.10 / .50 / .250
Poly(A) mRNA isolation from total RNA		
NucleoTrap® mRNA Mini	12	740655
NucleoTrap® mRNA Midi	12	740656

*This product is not available in the USA

www.mn-net.com

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