Bioanalysis

MACHEREY-NAGEL

RNA purification from plant and fungi




NucleoSpin® RNA Plant and Fungi

- Universal kit for challenging plant and fungal samples
- Tailored protocols for diverse starting materials
- Filter columns for lysate clearing included

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Why is RNA isolation from plant and fungi challenging?

Plant and fungal material is diverse in terms of structure, cell wall composition, biochemical compounds and the types of organs. Common products for the RNA isolation from plant material usually work fine with samples such as *Arabidopsis* leaves, but fail to efficiently purify RNA from challenging samples.

Why should I choose NucleoSpin® Plant and Fungi kit for RNA isolation?

This kit was developed to efficiently purify high integrity RNA from samples rich in secondary metabolites, sugar, starch or other compounds that interfere with nucleic acid purification methods. NucleoSpin® RNA Plant and Fungi enables RNA isolation from diverse plant organs like seeds, roots, stems, needles and others. Of course, it can also be used for standard samples such as *Arabidopsis* leaves. The user manual includes tailored recommendations for successful sample preparation.

Which sample types have been successfully tested?

The following table shows a selection of samples that were successfully tested with NucleoSpin® RNA Plant and Fungi:

Species	Material
Thale cress (*Arabidopsis thaliana*)	Leaves, seeds, siliques, roots
Alpine rock-cress (*Arabis alpina*)	Leaves, stems
Tobacco (*Nicotiniana tabacum*)	Leaves
Wheat (*Triticum aestivum*)	Leaves
Barley (*Hordeum vulgare*)	Roots
Maize (*Zea mays*)	Grains, leaves
Fir (*Abies procera*)	Needles
Spruce (*Picea abies*)	Needles
Populus (*Populus sp.*)	Leaves, stems, roots
Potato (*Solanum tuberosum*)	Tuber
Grapevine (*Vitis vinifera*)	Leaves, grapes
Sugar beet (*Beta vulgaris*)	Roots
Sugar cane (*Saccharum officinarum*)	Stalks
Pea (*Pisum sativum*)	Roots
Alfalfa (*Medicago sativa*)	Roots
Clover (*Medicago truncatula*)	Roots, leaves
Banana (*Musa sp.*)	Pulp
Kiwi (*Actinidia deliciosa*)	Pulp
Citrus fruits (*Citrus sp.*)	Pulp
Blueberry (*Vaccinium myrtillis*)	Pulp
Apple (*Malus domestica*)	Pulp
Ginger (*Zingiber officinale*)	Rhizome
Mushroom (*Laccaria bicolor*)	Mycelium
Mushroom (*Agaricus campestris*)	Fruiting body
Grey mold (*Botrytis cinerea*)	Mycelium

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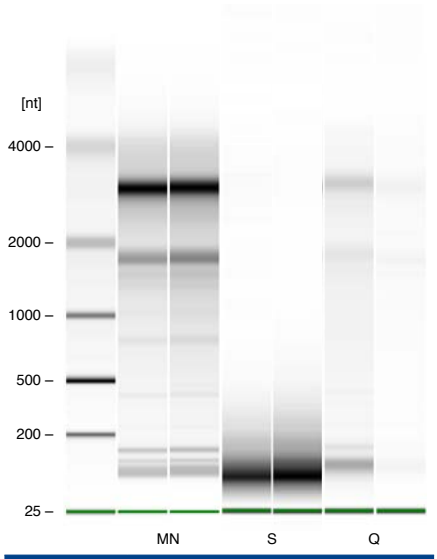
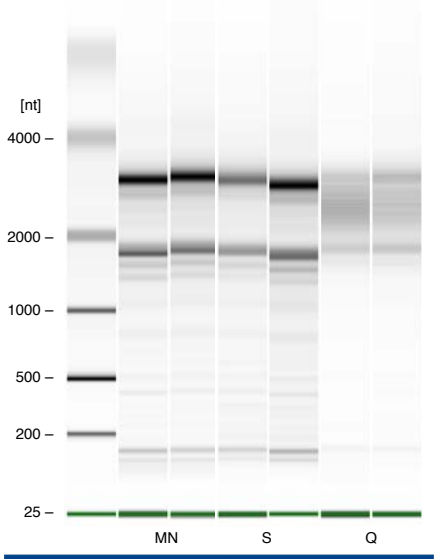
RNA isolation from plant

(A) RNA isolation from 500 mg kiwi fruit



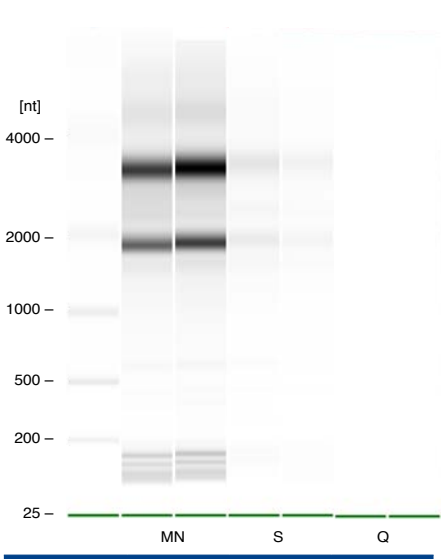
Kit	MN	S	Q
Yield [µg]	7.0	2.3	0.8
RIN	8.0	2.1	3.8
OD A_{260}/A_{280}	2.0	1.4	1.7

(B) RNA isolation from 50 mg potato tuber



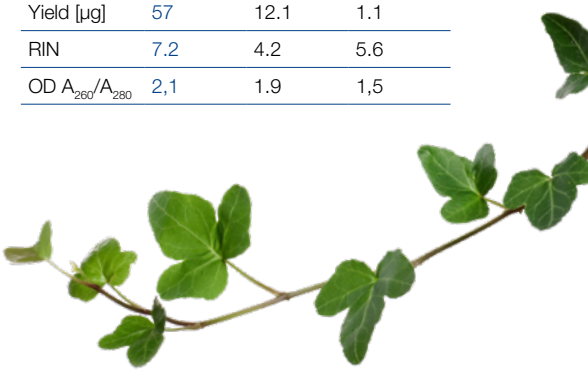
Kit	MN	S	Q
Yield [µg]	1.9	1.1	1,3
RIN	8.0	8.2	5.0
OD A_{260}/A_{280}	2.0	2.0	1.7

(C) RNA isolation from 50 mg spruce needles



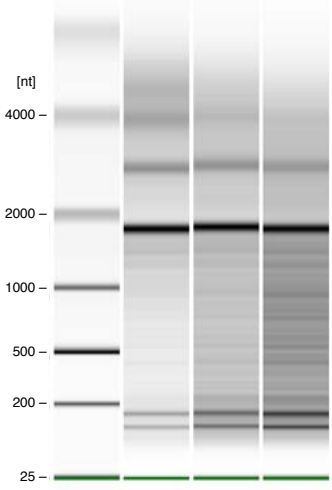
Kit	MN	S	Q
Yield [µg]	57	12.1	1.1
RIN	7.2	4.2	5.6
OD A_{260}/A_{280}	2,1	1.9	1,5

The NucleoSpin® RNA Plant and Fungi kit enables efficient isolation of high integrity RNA from various sample types. After RNA isolation with NucleoSpin® RNA Plant and Fungi (MN) and two competitor products (S, Q), the RNA was analyzed and quantified with an Agilent Bioanalyzer.

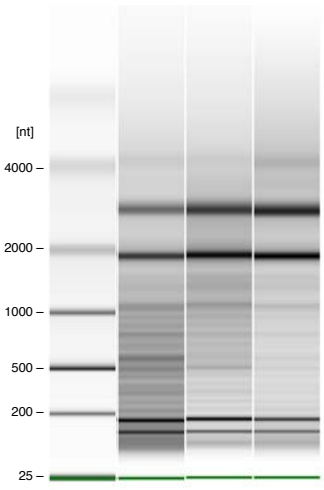


RNA isolation from fungi

(D) RNA isolation from 50 mg *Agaricus campestris* fruiting body



(E) RNA isolation from 100 mg *Botrytis cinerea* mycelium



The NucleoSpin® RNA Plant and Fungi kit allows for extraction of high integrity RNA from fungal samples. The RNA was isolated from 3 independent samples of fungal fruiting body and fungal mycelium. Analysis of the RNA was performed with an Agilent Bioanalyzer.

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Ordering information

Kit	Preps / Pack of	REF
Nucleic acids from plant and fungi		
NucleoSpin® RNA Plant and Fungi	10 / 50	740120.10 / .50
NucleoSpin® Plant II	10 / 50 / 250	740770.10 / .50 / .250
NucleoSpin® Plant II Midi	20	740771.20
NucleoSpin® Plant II Maxi	10	740772.10
DNA from food, feed and seeds		
NucleoSpin® Food	10 / 50 / 250	740945.10/.50/.250
Accessories for plant and fungi samples		
MN Bead Tubes Type C 1–3 mm corundum	50	740813.50
MN Bead Tubes Type G 5 mm steel beads	50	740817.50
MN Beads Type C (bulk) 1 mm corundum	200 g	740813.B.250
MN Beads Type G (bulk) 5 mm steel beads	500 g	740817.B.250
MN Bead Tube Holder Adapter for Vortex-Genie® 2. Used for the homogenization of bacteria, cells or animal tissues	1	740469

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