

# rDNase Set

## 1 Contents

rDNase Set	
REF	740963
rDNase, RNase-free (lyophilized)	1 vial (size F)
Reaction Buffer for rDNase	7 mL

## 2 Product description

The rDNase Set is intended for digestion of DNA in solutions (e.g., prepurified RNA samples) or for use with NucleoSpin® RNA kits (on-column DNA digest). The optimized Reaction Buffer for rDNase is highly recommended for best DNase performance.

### User option A: DNA digest in solution

The amount of rDNase and Reaction Buffer for rDNase is sufficient for DNA digestion in a total of 50 mL solution (e.g., 500 x 100 µL).

For preparation and storage of working solutions see section 4. For recommended protocol see section 6.

### User option B: On-column digest with NucleoSpin® RNA kits

The amount of rDNase and Reaction Buffer for rDNase is sufficient for the following numbers of on-column DNA digestions:

NucleoSpin® RNA	50 preps
NucleoSpin® RNA XS	90 preps
NucleoSpin® RNA Midi	100 preps
NucleoSpin® 8 RNA	240 preps
NucleoSpin® 96 RNA	240 preps
NucleoSpin® miRNA	60 preps
NucleoSpin® miRNA Plasma	120 preps
NucleoSpin® RNA/Protein	60 preps
NucleoSpin® TriPrep	60 preps
NucleoSpin® RNA Blood	60 preps
NucleoSpin® RNA Blood Midi	25 preps
NucleoSpin® 8 RNA Blood	240 preps
NucleoSpin® 96 RNA Blood	240 preps
NucleoSpin® RNA Plant	50 preps
NucleoSpin® RNA Plant and Fungi	40 preps
NucleoSpin® RNA Stool	85 preps
NucleoSpin® totalRNA FFPE	120 preps
NucleoSpin® totalRNA FFPE XS	240 preps

For preparation and storage of working solutions see section 4. For protocol please refer to the respective user manual.

## 3 rDNase specifications

**Source:** The rDNase is DNase I from bovine pancreas, recombinantly produced in *Pichia pastoris* without using any animal cells or other material derived from animals

**RNase activity:** Not detectable. RNase activity was tested using a cleavable fluorescent labeled RNase substrate. No RNase activity was detectable after one hour incubation time.

**RNA integrity:** Measurements with the Agilent 2100 Bioanalyzer show, that RNA integrity is untouched by the treatment with MACHEREY-NAGEL rDNase.

## 4 Storage conditions and preparation of working solution

rDNase, RNase-free: Store lyophilized rDNase at +4 °C upon arrival (stable for up to one year).

### Reconstitution for user option A: DNA digest in solution

Before first use add 550 µL of RNase-free H<sub>2</sub>O (see below) to the rDNase vial (size F) and incubate for 1 min at room temperature.

Gently swirl the vial to completely dissolve the rDNase. Be careful not to mix rDNase vigorously. rDNase is sensitive to mechanical agitation.

### Reconstitution for user option B: On-column digest with NucleoSpin® RNA kits

For NucleoSpin® RNA Blood kit, NucleoSpin® totalRNA FFPE kits, NucleoSpin® miRNA Plasma kit, and NucleoSpin® miRNA kit, dissolve rDNase (Size F) in the delivered volume of Reaction Buffer for rDNase (7 mL). Store and use rDNase according to the respective user manual.

For correct use of rDNase and Reaction Buffer for rDNase in the other NucleoSpin® RNA kits mentioned in section 2 please refer to the respective manual for detailed information. In particular check the vial size of the rDNase mentioned in the manual protocol:

If the kit contained rDNase vials size C, then dissolve the rDNase from this set in 12.5 volumes of RNase-free H<sub>2</sub>O indicated in the kit manual.

If the kit contained rDNase vials size D, then dissolve the rDNase from this set in 5 volumes of RNase-free H<sub>2</sub>O indicated in the kit manual.

After dissolving the rDNase proceed according to the manual protocol.

Storage after reconstitution: Dispense reconstituted rDNase working solution into aliquots and store at -20 °C. The frozen working solution is stable for 6 months. Do not freeze/thaw the aliquots more than three times.

## 5 Safety instructions

When working with the **rDNase Set** wear suitable protective clothing (e.g., lab coat, disposable gloves, and protective goggles). For more information consult the appropriate Material Safety Data Sheets (MSDS available online at <http://www.mn-net.com/msds>).



## 6 Protocol for DNA digestion in solution

Several commonly used RNA purification methods co-purify DNA to a considerable extent (e.g., phenol based RNA purification). This often requires a subsequent removal of contaminating DNA and clean up of the RNA from the reaction mixture.

DNA digestion in solution can efficiently destroy contaminating DNA. Subsequent repurification of the RNA (in order to remove buffer, salts, DNase, and digested DNA) is usually required.

The rDNase Set, containing high quality, recombinant RNase-free DNase (rDNase) and Reaction Buffer facilitates such a digestion in solution in order to remove even traces of contaminating DNA.

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### 1 Digest DNA (Reaction Setup)

Prepare enzyme-buffer premix in a ratio of 1:10. Example: Add 1 µL reconstituted rDNase to 10 µL Reaction Buffer for rDNase.

Add 1/10 volume of the enzyme-buffer premix to the crude RNA solution (e.g., add 1 µL of the enzyme-buffer premix to 10 µL RNA). In case of NucleoSpin 8/96 RNA and NucleoSpin 8/96 RNA Blood kits add 2/10 volume of the enzyme-buffer premix to the crude RNA solution.

*Note: The crude RNA solution should be of low RNase activity, otherwise the RNA quality may be affected during incubation.*

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### 2 Incubation

Incubate for 10 min at 37 °C.

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### 3 Repurification of RNA

Repurify RNA using a suitable cleanup procedure, e.g., with the NucleoSpin® RNA Clean-up XS (REF 740903).

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## 7 Product use restriction / warranty

All MACHEREY-NAGEL products are designed for their intended use only. They are not intended to be used for any other purpose. The description of the intended use of the products can be found in the original MACHEREY-NAGEL product leaflets. Before using our products, please observe the instructions for use and the safety instructions from the respective Material Safety Data Sheet of the product.

This MACHEREY-NAGEL product is carrying documentation stating specifications and other technical information. MACHEREY-NAGEL warrants to meet the stated specifications. The provided warranty is limited to the data specifications and descriptions as given in the original MACHEREY-NAGEL literature. No other statements or representations, written or oral, by MACHEREY-NAGEL's employees, agents or representatives, except written statements signed by a duly authorized officer of MACHEREY-NAGEL are authorized. They should not be relied upon by the customer and are not a part of a contract of sale or of this warranty.

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Products and their application are subject to change. Therefore, please contact our Technical Service Team for the latest information on MACHEREY-NAGEL products. You may also contact your local distributor for general scientific information. Descriptions in MACHEREY-NAGEL literature are provided for informational purposes only.

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