

MN 96 Bead Plates

1. Contents

Product	REF	Pack of
MN 96 Bead Plate Type A	740850.1	1
Rack of prefilled tube strips (12 strips with 8 tubes each)	740850.4	4
containing 0.6–0.8 mm ceramic beads; suitable in conjunction with mixer mill	74850.24	24
MN 96 Bead Plate Type B	740851.1	1
Rack of prefilled tube strips (12 strips with 8 tubes each) containing 40–400 µm glass beads; suitable in conjunction with mixer mill	740851.4	4
	740851.24	24
MN 96 Bead Plate Type D	740853.1	1
Rack of prefilled tube strips (12 strips with 8 tubes each) containing 3 mm steel beads; suitable in conjunction with mixer mill	740853.4	4
	740853.24	24
MN 96 Bead Plate Type G	740855.1	1
Rack of prefilled tube strips (12 strips with 8 tubes each) containing 5 mm steel beads and antifoam; suitable in conjunction with mixer mill	740855.4	4

2. Product description

MN 96 Bead Plates are prefilled Racks of Tubes Strips (racks including 12 strips with 8 tubes each in a 96 well format) containing different types of beads. They are intended for the disruption of biological sample material and subsequent nucleic acid purification.

The MN 96 Bead Plates are recommended to be used in combination with a swing mill (e.g., mixer mill MM300 from Retsch®), depending on MN 96 Bead Plate type (see following comments).

WARNING: Many modern disruption devices can cause very high energy input and high mechanical stress on the MN 96 Bead Plate. Depending on bead plate type and content (beads, liquid volume, sample type), especially high frequency of shaking and/or long shaking duration can cause breaking up of individual tubes or plates!

If using such a disruption device, it is the responsibility of the user to perform initial stability tests to ensure stability of MN 96 Bead Plates during the individual experimental setup (e.g., intensity of agitation).

Never use the MN 96 Bead Plate with less than 12 tube strips. It is the responsibility of the user to perform initial stability test for the used MN 96 Bead Plates under the conditions used!

This is especially important for MN 96 Bead Plates that contain steel beads. Perform initial test with water instead of lysis buffer and moderate machine setting (low frequency, short time) in order to avoid spillage of chaotropic lysis buffer in case of tube breakage. Integrity and tightness of the individual tubes and rack needs to be controlled after every run.

Note: Stability testing has been conducted on the MN 96 Bead Plate Type B and D on a Retsch® Mixer Mill MM300 at highest frequency (30 Hertz) for up to 15 minutes (Type B and D). MN Bead Plate Type G (containing antifoam) was tested on the MM300 at 30 Hz for up to 15 min containing as little as 200 µL lysis buffer. **Do not exceed the maximal disruption time.** For optimal sample disruption, avoidance of DNA fragmentation, and highest DNA yield, see recommendations above for adequate disruption conditions. Other disruption devices will require different settings regarding frequency and duration for optimal performance with the selected sample material.

Please note that the position of the tube within the machine (e.g., Retsch® Mixer Mill) is important for optimal performance! Please consult instruction manual of the respective device. Re-orient MN 96 Bead Plates vertically for 180° after the first disruption time. Ensure that all wells are sealed properly before and after each disruption. Samples which have been the closest to the machine body should be now the furthest apart.

3. Storage conditions

The product can be stored at room temperature (18–25 °C) and is stable for at least one year.

4. Safety Instructions

MN 96 Bead Plates do not contain hazardous material. Respect warning in section 2 for proper usage of the MN 96 Bead Plates.

5. Protocol

Add biological sample material and lysis buffer from a suitable nucleic acid purification kit to the tube. Do not moisten or contaminate in any case the upper part of the inner rim, as this might lead to leakage. Close the tubes with the cap strips and insert the plate into the swing mill according to the respective user manual.

Time and frequency of disruption using a Retsch® Mixer Mill MM300

Sample material	MN 96 Bead Plate	Disruption time / frequency
Soil, sediments and stool E.g. apportionable sample material	MN 96 Bead Plate Type A	Approx. 2 × 5 min*, 30 Hz
Gram negative bacteria E.g., <i>Escherichia coli</i> , <i>Vibrio fischeri</i>	MN 96 Bead Plate Type B	Approx. 2 × 4 min*, 30 Hz
Gram positive bacteria E.g., <i>Bacillus subtilis</i> , <i>Corynebacterium glutamicum</i>	MN 96 Bead Plate Type B	Approx. 2 × 4 min*, 30 Hz
Insect sample material E.g. fresh, frozen, dried or ethanol preserved	MN 96 Bead Plate Type D	Approx. 2 × 20 sec*, 20 Hz
Filamentous fungi E.g., <i>Aspergillus nidulans</i> . melon mold; Citrus mold; Potato mold	MN 96 Bead Plate Type D	Approx. 2 × 1 min*, 20 Hz
Plant leaves and tissues E. g. wheat, maize, fir needle	MN 96 Bead Plate Type G (containing antifoam)	Approx. 2 × 1 min*, 30 Hz

* Re-orient MN 96 Bead Plates vertically for 180° after the first disruption time. Ensure that all wells are sealed properly before and after each disruption. Samples which have been the closest to the machine body should be now the furthest apart.

After sample disruption, recover the lysate for further nucleic acid purification.

6. Product use restrictions / warranty

MN 96 Bead Plates are developed, designed, and sold for research purposes only. We offer a one year warranty from date of delivery that our products will conform to applicable specifications set forth in the product specifications if not sold to persons set forth in § 13 of German Civil Code. In such a case, the provisions of the German Civil Code shall be valid. This warranty does not cover defects in or damage to the products which are due to improper installation or maintenance, misuse, neglect or any use other than ordinary commercial application. The seller shall not be liable for the goods being fit for a particular purpose unless otherwise agreed upon, to which the buyer intends to put them. This warranty is strictly exclusive. MACHEREY-NAGEL MAKES no other warranty of any kind whatsoever, and SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES OF ANY KIND OR NATURE WHATSOEVER; DIRECTLY OR INDIRECTLY; EXPRESS OR IMPLIED; INCLUDING; WITHOUT LIMITATION; AS TO THE SUITABILITY; REPRODUCIBILITY; DURABILITY; FITNESS FOR A PARTICULAR PURPOSE OR USE; MERCHANTABILITY; CONDITION; OR ANY OTHER MATTER WITH RESPECT TO MACHEREY-NAGEL PRODUCTS OR THE SALE OF MACHEREY-NAGEL PRODUCTS. If not superseded by these terms the current terms and conditions for the sale of goods (export version) are additionally valid.

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