



LABORATORY LINES HOMOGENIZER



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YR413/YR413-1/YR413-2 Homogenizer



Description

Fast, effective and reproducible homogenization of a wide range of samples, including tissues and cells hard to lyse. They also own extraordinary power for the processing of even impact resistant samples such as bones or cartilage. The YR413-1 and YR413 are ideal solutions for releasing DNA, RNA, Proteins, Enzymes, etc. from very tough samples while still retaining molecular integrity

■ Highlights

1. "3D Rotating High Speed Motion" for quick disruption of those fibrous tissues and resistant cells
2. A wide range of rotation speed settings from 4 to 7 m/s
3. Brushless motor realizing no brush particle generation
4. Easy to remove sample tube holder and fix sample tubes
5. Easy to monitor the disruption process through the clear lid
6. Simultaneously homogenization:
YR413-1 6*2ml tubes or 2*5ml tubes
YR413 24*2ml tubes or 12*5ml tubes
YR413-2 24*2ml tubes or 12*5ml tubes
7. Disposable tubes ensure no threat of cross-contamination or sample degradation
8. The YR413-1 and YR413, YR413-2 vigorously and uniformly shakes the tubes providing an efficient, consistent, high-yield and quality homogenization usually in 35s or less

■ YR413-1 homogenizer

1. Built upon the innovative design and designed for personal use
2. Broad performance range -- speed settings from 4 to 7 m/s
3. Small footprint -- requires minimal bench space
4. Holds 6x0.5ml/1.5ml/2ml or 2x5ml tubes
5. Patent design for the damping institutions and hold ultra quiet operation, even at the highest speed running



YR413



YR413-2



YR413-1



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YR413/YR413-1 Homogenizer

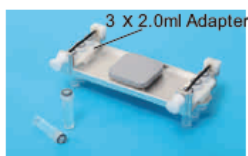
How to use beads

1.4mm & 2.8mm Ceramic Beads	3mm & 6mm Metal Beads	1mm & 3mm Glass Beads
<p>Ideal for soft animal, plant or human tissues:</p> <ul style="list-style-type: none"> • brain • liver • skin • leaves • gonad • muscle, etc. 	<p>Ideal for any hard tissue types:</p> <ul style="list-style-type: none"> • hair • teeth • bones • seeds • corn • rice • nail, etc 	<p>Ideal for microorganisms</p> <p>Optimal for:</p> <ul style="list-style-type: none"> • spores • fungi • yeast • e-coli, etc.
<p>We will offer the Lysing Kits which are available with Plastic or Stainless Steel pre-filled sample tubes in future</p>		

01

Holder and Adapter

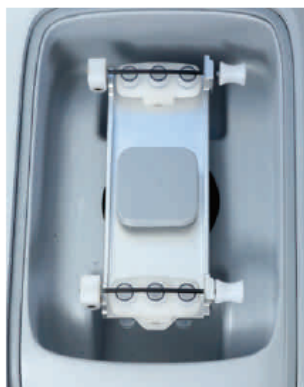
Holder for 6 x 2.0ml and for 2 x 5.0ml
FOR YR413-1



Holder and 2-3 x 2.0ml Adapter



Holder and 2-5.0ml Adapter



02

Rotor Adapter

Rotor for 24 x 2.0ml / Rotor for 12 x 5.0ml
FOR YR413 ad YR413-2



24 x 2.0ml rotor



12 x 5.0ml rotor

03

Applications:

Any researcher who requires genomic DNA, total RNA or recombinant protein as a starting material will benefit from the unit system.

- Northern blot analysis, qPCR and microarrays
- Optimization of recombinant protein expression
- Library synthesis and Southern blots
- RT-PCR and differential display
- Pathogen screening of soil or water
- Environmental surveys
- Verification of food safety

04

Typical Samples:

1. Bone, brain, tumors
2. Bacteria gram + or -
3. Yeast, fungi, spores
4. Seeds, roots
5. Feces, swabs
6. Soil, sediments

05

Grinding tubes

1. YR413-1: Simultaneous processing 6*2ml/1.5ml/0.5ml tubes or 2*5ml tubes
2. YR413/ YR413-2 Simultaneous processing 24*2ml/1.5ml/0.5ml tubes or 12*5ml tubes
3. The grinding tubes must be with high toughness and low temperature resistance



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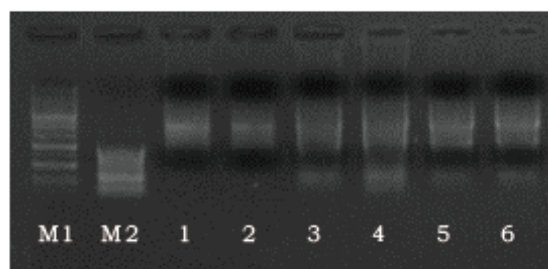
YR413-2 refrigerated homogenizer

YR413-2 refrigerated homogenizer has the internal compressor which was upgraded on the basis of normal YR413 homogenizer. Partial active ingredients will be negatively affected when use the conventional methods to homogenize most of the soft or sensitive samples under room temperature, while the low temperature can prevent this situation. Therefore the cooling technique is the key effective method to save the complete sample. In addition, the sample will change more crisp which can be homogenized easily and efficiently. Thus, YR413-2 refrigerated homogenizer plays an important role in the extraction progress of RNA, DNA and the protein activity determination

1. The lowest temperature: -10°C
2. Internal turbo fan in the homogenized cavity which can keep the temperature uniformity within 2°C
3. Environment friendly for compressor
4. Effectively prevent the reduction of sample activity which caused by the high temperature with the refrigerated function when extracting the RNA, Protein etc
5. Has the dry homogenization and wet homogenization function.

Extraction results

■ Animal tissue extraction result

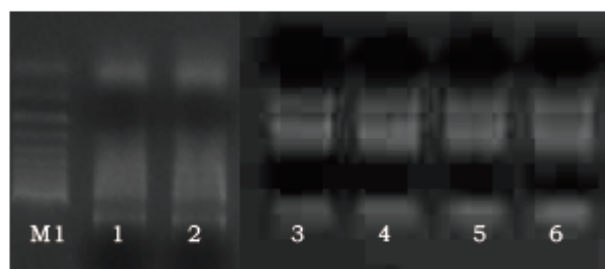


Remark: M1 was 10kb marker; M2 was 1000kb marker; Line 1 and 2 were room temperature homogenization; Line 3 and 4 were refrigerated homogenization which were homogenized directly when the temperature cooled to 0°C ; Line 5 and 6 were refrigerated homogenization which cooled to 0°C and kept 5 min before homogenization.

No.	260nm	280nm	260/280	C:ng/ul
1	3.872	1.963	1.972	154.874
2	4.219	2.073	2.035	168.772
3	16.65	8.177	2.036	665.989
4	20.379	10.15	2.008	815.151
5	17.433	8.741	1.994	697.308
6	13.726	6.792	2.021	549.059

According to the RNA concentration and electrophoretogram above, the results which were homogenized directly when the temperature cooled to 0°C by the refrigerated homogenizer is much better than in room temperature

■ Plant sample extraction result



Remark: M1 was 1000bp marker; Line 1 was vegetable leaf which was treated by liquid nitrogen before homogenization; Line 2 was vegetable leaf treated by refrigerated homogenization; Line 3 was rice which was treated by liquid nitrogen before homogenization; Line 4 was rice treated by refrigerated homogenization; Line 5 was corn leaf which was treated by liquid nitrogen before homogenization; Line 6 was corn leaf treated by refrigerated homogenization.

No.	260nm	280nm	260/280	C:ng/ul
1. liquid-N2	26.371	16.177	1.63	1054.852
2. Bioprep-24R	20.668	12.285	1.68	826.79
3. liquid-N2	2.143	1.24	1.73	85.741
4. Bioprep-24R	2.014	1.1058	1.82	80.6227
5. liquid-N2	1.911	1.114	1.72	76.447
6. Bioprep-24R	1.898	1.045	1.82	75.9924

According to the RNA concentration and electrophoretogram above, the results which were homogenized by refrigerated homogenizer and treated by liquid nitrogen were similar, while for some soft samples, the results which treated by liquid nitrogen were better because of the sample became more crisp after the treatment by liquid nitrogen



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YR413/YR413-1/YR413-2 Homogenizer



Specification	YR413-1	YR413	YR413-2 (Cooling Function)
Type	YR413-1	YR413	YR413-2 (Cooling Function)
Temperature range	—	—	-10°C –40°C
From RT. to 0°C	—	—	< 30min
Temperature uniformity	—	—	± 2°C
Cooling method	—	—	Compressor refrigeration
Speed Range (m/s)	4.00m/s~7.00m/s increment 0.05m/s	4.00m/s~7.00m/s increment 0.05m/s	4.00m/s~7.00m/s increment 0.05m/s
Speed Range (rpm)	2500rpm – 4350rpm increment 10rpm	2430rpm – 4260rpm increment 10rpm	2430rpm -- 4260rpm increment 10rpm
Display	LCD	OLED	OLED
Cycle Duration	1s -- 90s, increment 1s	1s -- 90s, increment 1s	1s – 90s, increment 1s
Pause time	1s -- 90s, increment 1s	1s -- 90s, increment 1s	1s – 90s, increment 1s
Cycle	10	10	10
Programmable	1	50	50
Samples	6 x 2ml/1.5ml or 2 x 5ml	24x 2ml/1.5ml or 12x 5ml	24x 2ml/1.5ml or 12x 5ml
Tube Type	grinding tube	grinding tube	grinding tube
Acceleration Time	<2s	<4s	<4s
Noise	<65 db	<70 db	<70 db
Wearing part	No	No	No
Adapter	Holder for 2ml/5ml (Standard)	Rotor for 2ml x 24 (Standard) or Rotor for 5ml x 12 (Optional)	
Power	150W	150W	150W
Dimensions (W×D×H)	354mm×218mm×206mm	280mm×360mm×385mm	300mm×500mm×360mm
Weight (kg)	8.9 kg	25.0 kg	40.0 kg
Power Supply	AC100~240V, 50/60Hz	AC100~240V, 50/60Hz	AC100~240V, 50/60Hz



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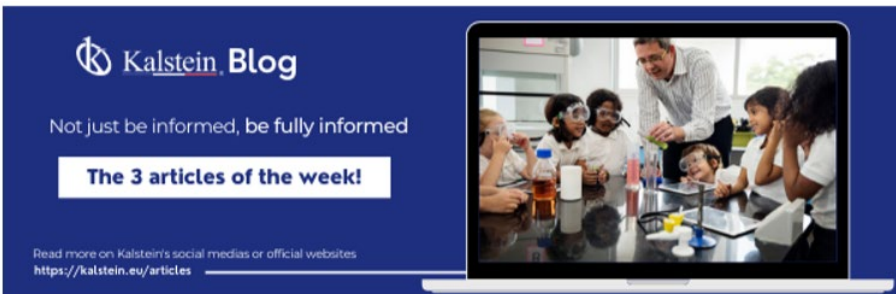
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