

Q800R2

DNA Shearing Sonicator

QSONICA

- **High throughput**
- **Uses standard sample tubes**



APPLICATIONS:

- **DNA shearing for Next-gen sequencing**
- **Chromatin shearing**
- **ChIP**
- **ChIP-seq**
- **RNA-seq**
- **Protein extraction**
- **Cell lysis**

KEY INSTALLATIONS:

- **Broad Institute**
- **NIH**
- **Harvard Medical School**
- **Memorial Sloan Kettering**
- **Genentech**
- **Max Planck Institute**
- **Ludwig Institute UCSD**
- **University of Cambridge**
- **Washington Univ. St. Louis**
- **California Institute of Technology**
- **Shanghai Inst. for Biological Sciences**

Qsonica has over 45 years of experience manufacturing ultrasonic equipment with thousands of customers around the world. All products are designed and manufactured in the USA.

The Q800R2 is our 2nd generation DNA and Chromatin shearing system. Improvements include an enhanced user-friendly design and quieter operation while remaining thousands of dollars less than the competition.

Samples can be sheared to a range of fragment sizes (150bp – 3kb). The system is compatible with commercially available sample tubes and is capable of processing up to 18 samples at one time. Multiple tube rack options can accommodate 50ul - 1ml sample volumes using a variety of standard sample tubes.

The Q800R2 is a complete package including a chiller to control temperature, digital operating system with programmable memory, high intensity ultrasonics and sound reducing enclosure.

Chromatin Shearing

Example protocols and results are based on customer feedback.

Sample Protocols:

Mammalian Chromatin

Cell Type: HEK 293T (2) 10cm dishes
70-80% confluent

Total Sample Volume: 300ul

Fixation Time: 1% Formaldehyde, 13 min

Sonicator Amplitude Setting: 70%

Sonication Pulse Rate: 15 seconds On,
45 seconds Off

Total Sonication On Time: 30 min

Yeast Chromatin

Cell Type: Wild type *S. pombe* cells
grown to an OD of 1.3-1.5 in YEA.

Total Sample Volume: 300ul

Fixation Time: 1% Formaldehyde, 15 min

Sonicator Amplitude Setting: 100%

Sonication Pulse Rate: 20 seconds On,
40 seconds Off

Total Sonication On Time: 30 min

C. elegans Chromatin

Cell Type: *C. elegans* culture;
Nuclear extract 1mg/ml

Total Sample Volume: 500ul

Fixation Time: 2% Formaldehyde, 20 min

Sonicator Amplitude Setting: 70%

Sonication Pulse Rate: 30 seconds On,
30 seconds Off

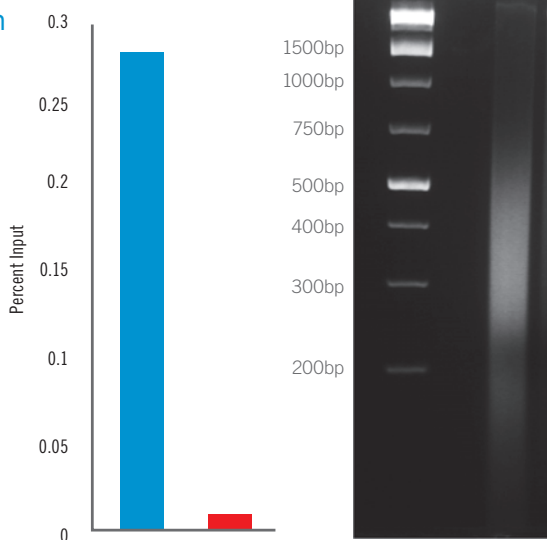
Total Sonication On Time: 20 min

Sample Results:

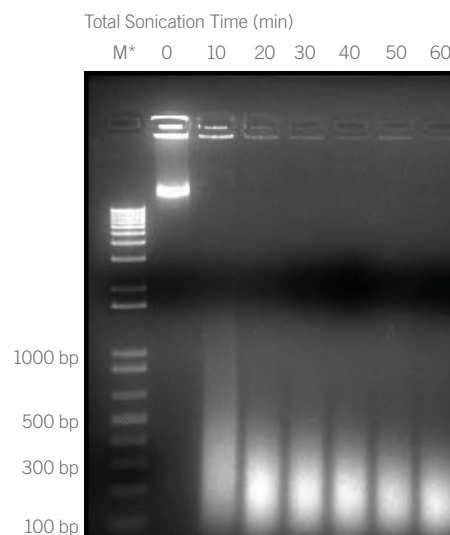
C. elegans Chromatin Prep & Chip

500 ul Nuclear Extract,
10ul Pol II Ab (8WG16)

■ Protein-Coding Gene
■ Ribosomal RNA Gene

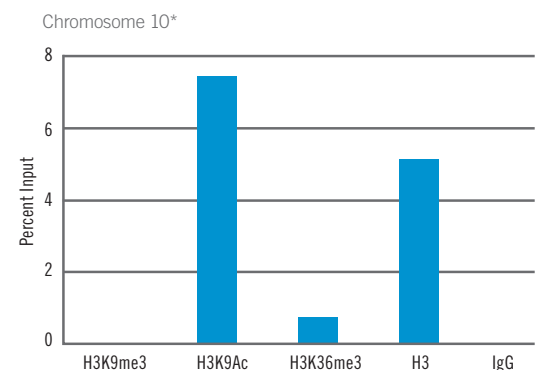


Yeast Chromatin Prep & Chip



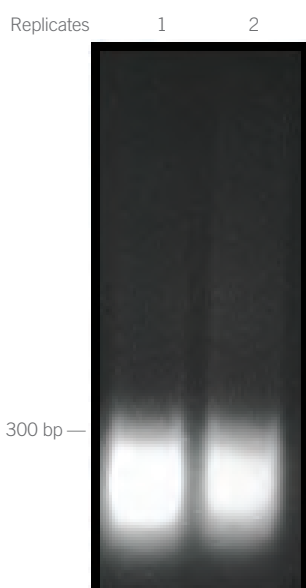
* Note: Lane M is the NEB 1kb Plus ladder

Mammalian Chromatin Prep & Chip



Chr10 Primer sequences: Forward - TCCTTCTCCCAACAATCAGC Reverse - GATGTCGCTCCGAATCTTG
Antibodies Used: H3K9me3 (abcamab8898), H3K9Ac (upstate 07-352), H3K36me3 (abcam ab9050), H3 (abccamab1791)

* Average of two independent replicate chromatins in pane



Sample protocols and publications for additional species and cell lines are available in the literature section of www.sonicator.com

DNA Shearing

Example protocols and results are based on customer feedback.

Sample Protocols:

Bacterial Genomic DNA

Cell Type / Concentration: *E.coli* / 250ng

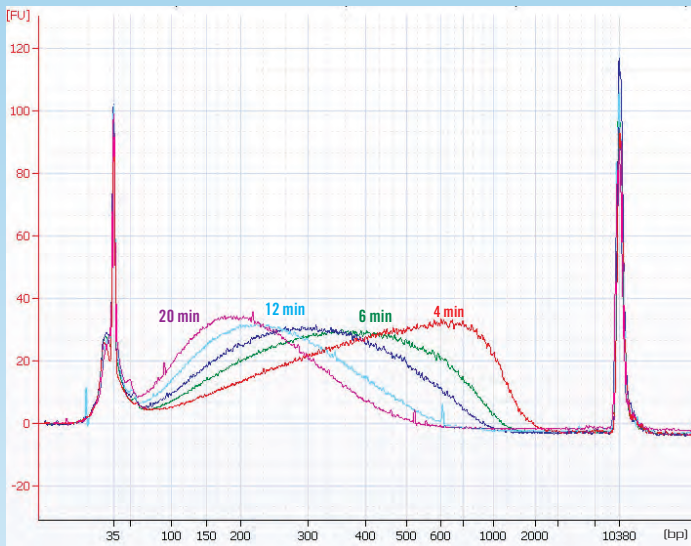
Sonication Pulse Rate: 15 seconds On, 15 seconds Off

Total Sample Volume: 200ul in 0.5ml tubes

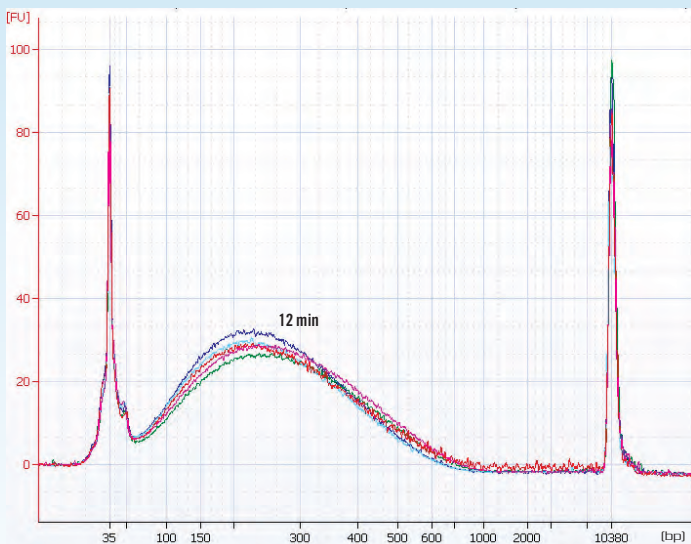
Total Sonication On Time: As indicated below

Sonicator Amplitude Setting: 20%

Fragmentation Over Time



Testing Independent Replicates



Human Skeletal Myoblast Genomic DNA

Cell Type / Concentration: LHCN-M2 Skeletal Myoblast / 200ng

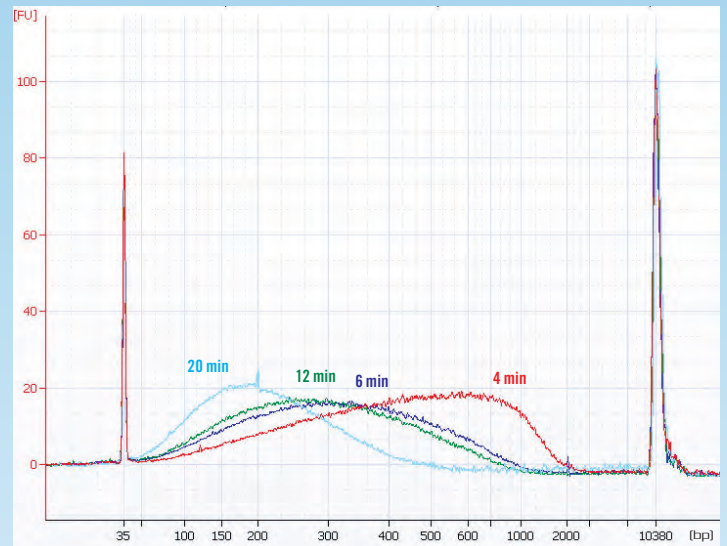
Sonication Pulse Rate: 15 seconds On, 15 seconds Off

Total Sample Volume: 200ul in 0.5ml tubes

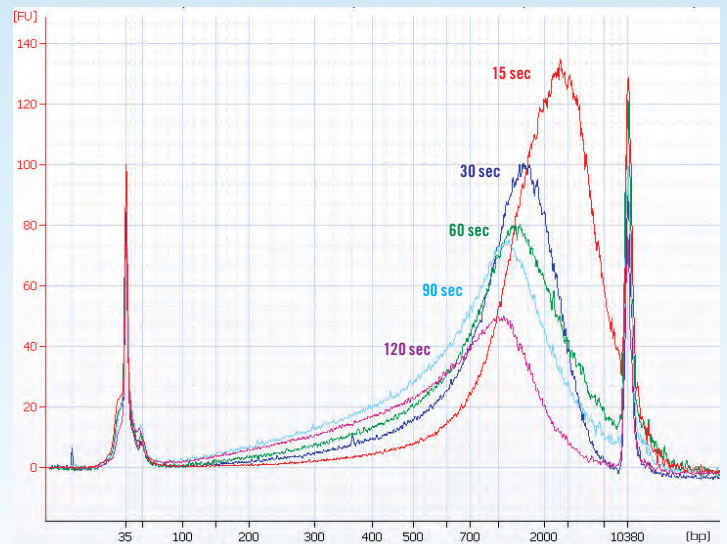
Total Sonication On Time: As indicated below

Sonicator Amplitude Setting: 20%

Fragmentation Over Time



Fragmentation Over Time





Digital operating system with programmable memory



Completely integrated system includes a Chiller to control processing temperatures



ULTRASONIC START/STOP
 PROCESSING TIMER
 PULSE/REST
 AMPLITUDE
 POWER ON/OFF
 AMPLITUDE ADJUSTMENT

Rotating sample tube holder with internal lighting

Sample Tube Rack Options for the Q800R2 System

#4256
 8 tube holder
 (1.5mL Polystyrene tubes)



#4255
 12 tube holder
 (0.5mL PCR tubes)



#4262
 18 tube holder
 (0.3mL PCR tubes)



Technical Specifications:

Power Rating: 750 Watts
Frequency: 20 kHz
Programmable Timer: 1 second to 10 hours
Voltage: 110V*, 50/60Hz

**Specify desired voltage for export*

Dimensions:

Generator 8.00" W x 15.25" L x 8.50" H
 Enclosure 11.50" W x 12.00" L x 20.00" H
 Chiller 11.00" W x 13.00" L x 13.00" H

Additional information on our website:

- Sample Protocols
- Optimization tips
- Video
- Customer Feedback
- Recent Publications