Bioruptor® DNA QC kit

Track the efficiency of your Bioruptor® Plus*

Cat. No. B01020001

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https://www.diagenode.com/en/pages/support

* This kit is also validated on the Bioruptor® Standard and the Bioruptor® TWIN

Version 2/09.2016

Dear customer,

We have developed the DNA Quality Control Kit for you to be able to track the efficiency of your Bioruptor and to figure out the right time for servicing. After the sonication, if your QC does not reach our standards, please, contact Diagenode for recommendations. However, if your QC passes, we wish you every success with your Bioruptor.

Thank you for your confidence in Diagenode.

Best regards,

The Bioruptor maintenance service team

DESCRIP

DESCRIPTION

TION

KIT CONTENT

The kit contains sufficient reagents for performing one shearing experiment.

Description	Quantity	Storage
Unsheared DNA (10 ng/µl)	12 tubes (100 µl/tube)	4°C
Control sheared DNA 200bp (10 ng/µl)	1 tube (20 µl/tube)	4°C
Datasheet of the control	1	-

Lot number: *001 -* ***Expiry Date:*** *One year from the date of receipt*

REQUIRED MATERIALS NOT PROVIDED

- Bioruptor® PLUS – Bioruptor® Standard – Bioruptor® TWIN
- Tube holder for 12 X 0.5/0.65 ml tubes (Cat No. B01200043)
- Vortex
- Fragment Analyzer Automated™ CE System and a High-sensitivity NGS Fragment Analyses Kit (1 bp-6000 bp) *(Advanced Analytical)*

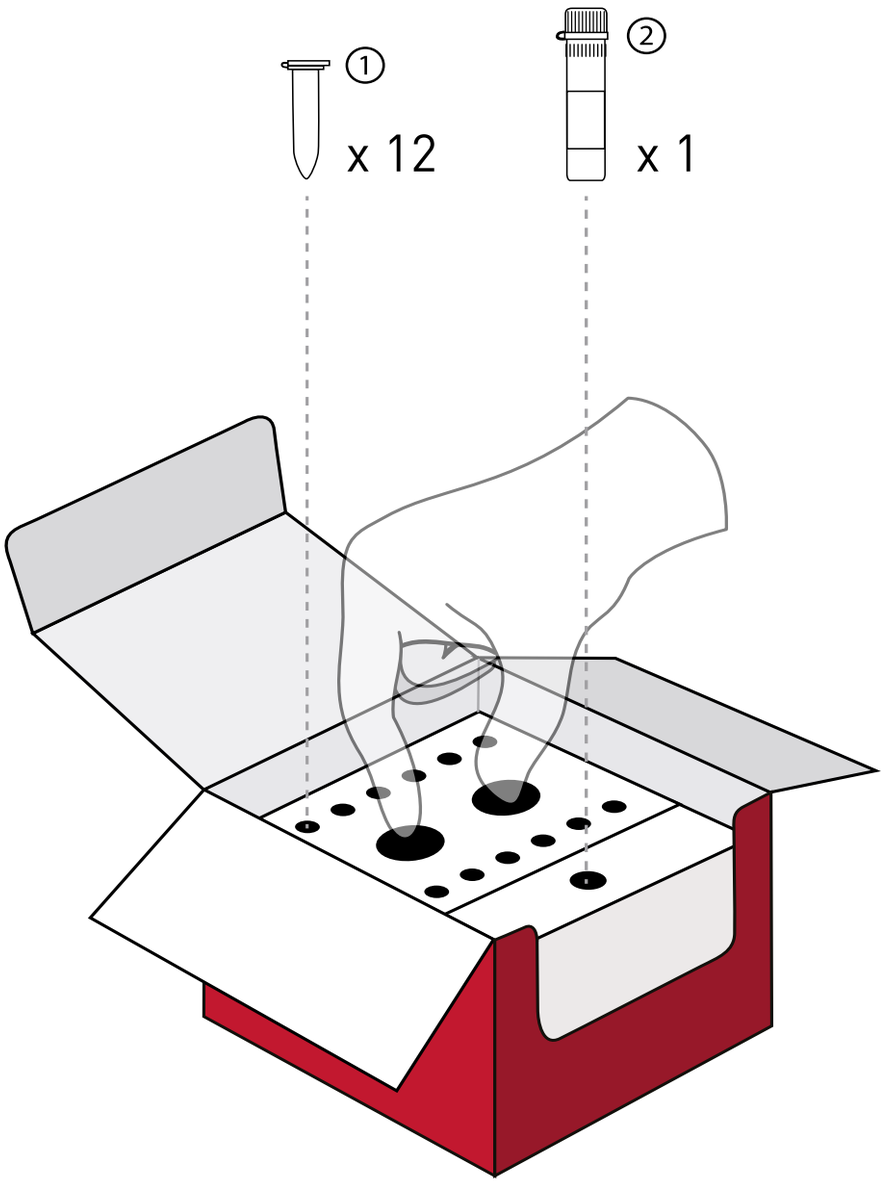
or

- Bioanalyzer and a High Sensitivity DNA kit *(Agilent)*

DESCRIPTION

1. Unsheared DNA : TE buffer + gDNA (10 ng/µl)

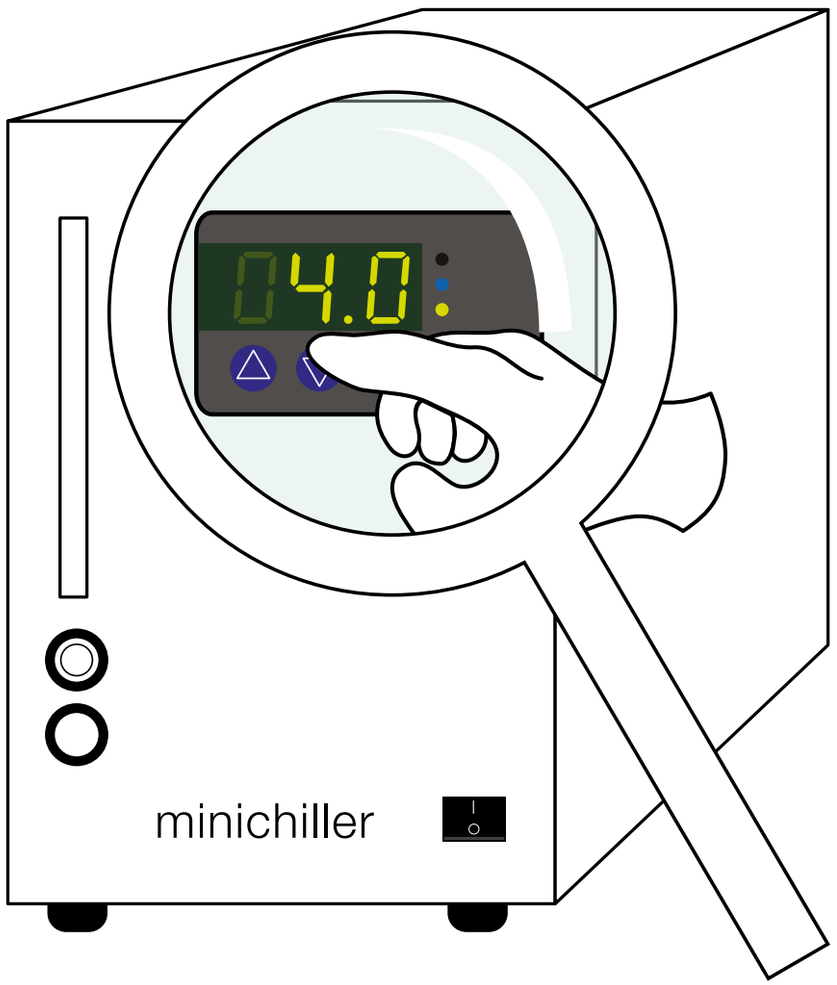
2. Control sheared DNA 200 bp (10 ng/µl)



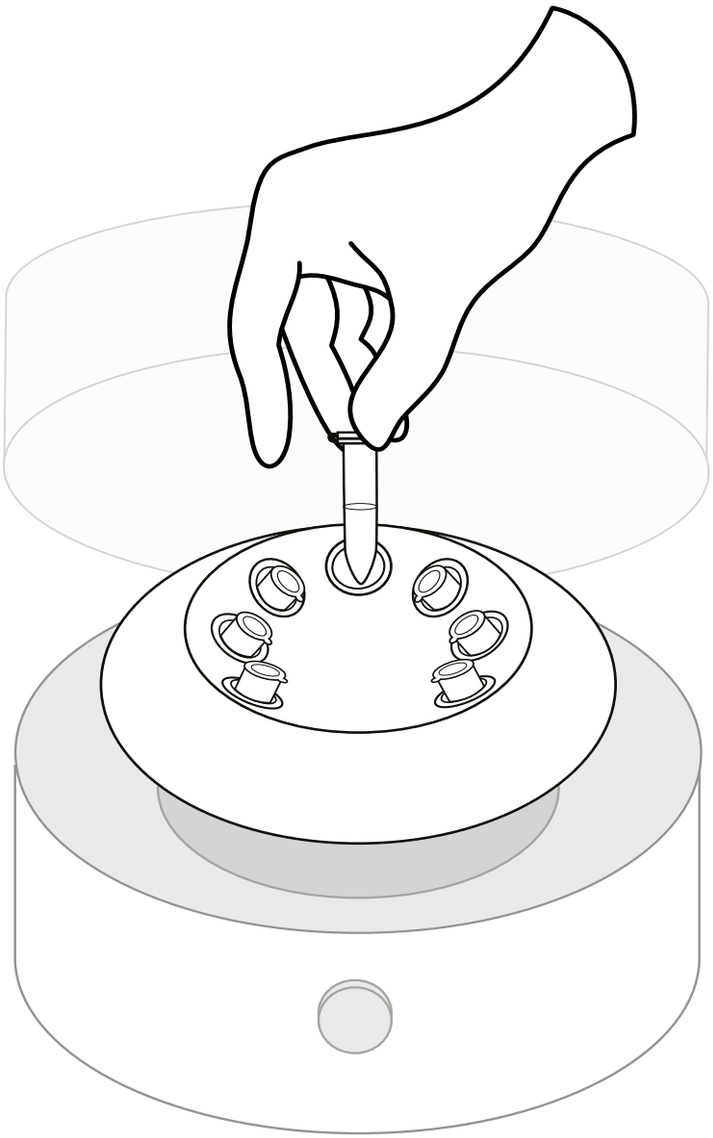
INSTRUCTIONS

INSTRUCTIONS

1 **Start** the Bioruptor® and **set** the temperature at **4°C**

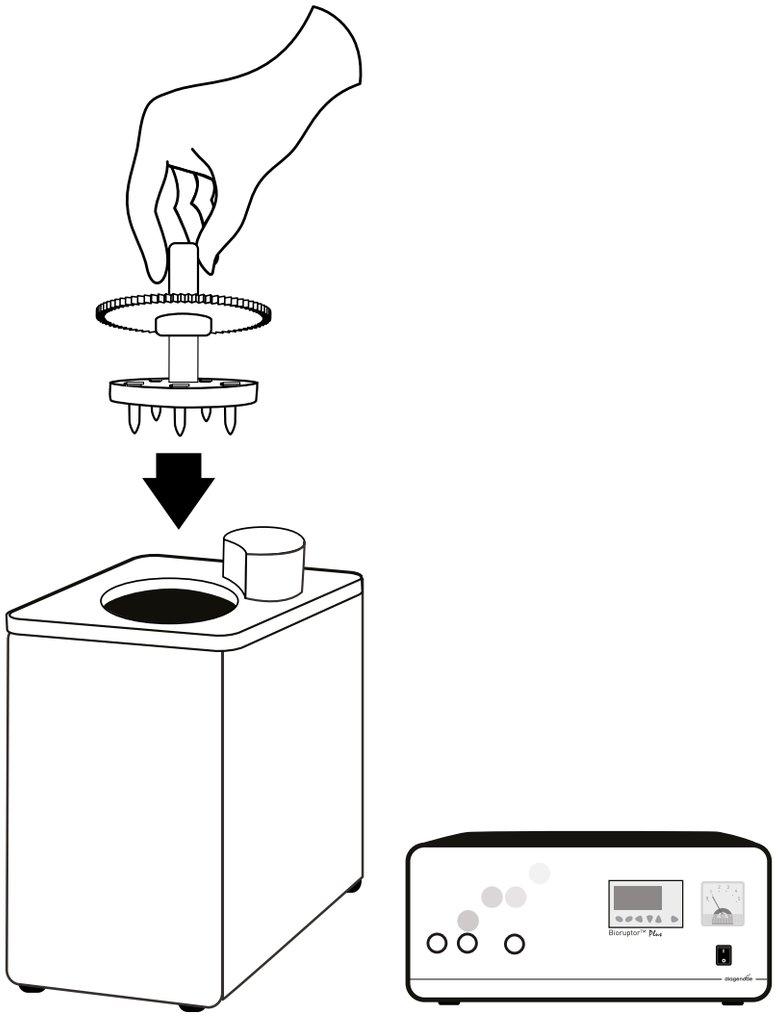


2 **Centrifuge** the tubes for ~ 10 seconds and **store** on ice for 15 minutes

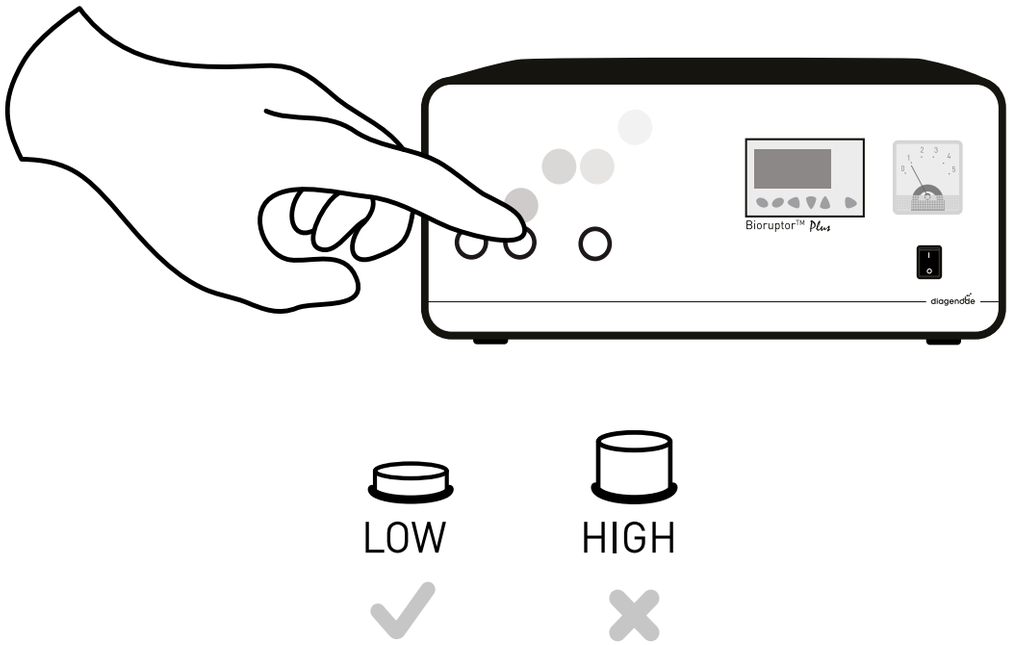


3 Check if the **water temperature** reached **4°C** and place the tubes in the **tube holder**

Note: all 12 tubes need to be run in parallel for a valid QC test evaluation



4 **Set** the power at **LOW** and **set** the number of cycle and the time ON/time OFF (**30 cycles** with 30 seconds ON and 30 seconds OFF cycle times)



QUALITY

QUALITY CHECK

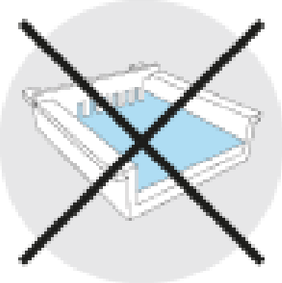
CHECK

5 **Analyze** the sheared samples and the control sheared DNA sample (optional) on:

- a **Fragment Analyzer** Automated™ CE System with a High-sensitivity NGS Fragment Analyses Kit (1 bp-6000 bp) *(Advanced Analytical)* > ***5a***

or

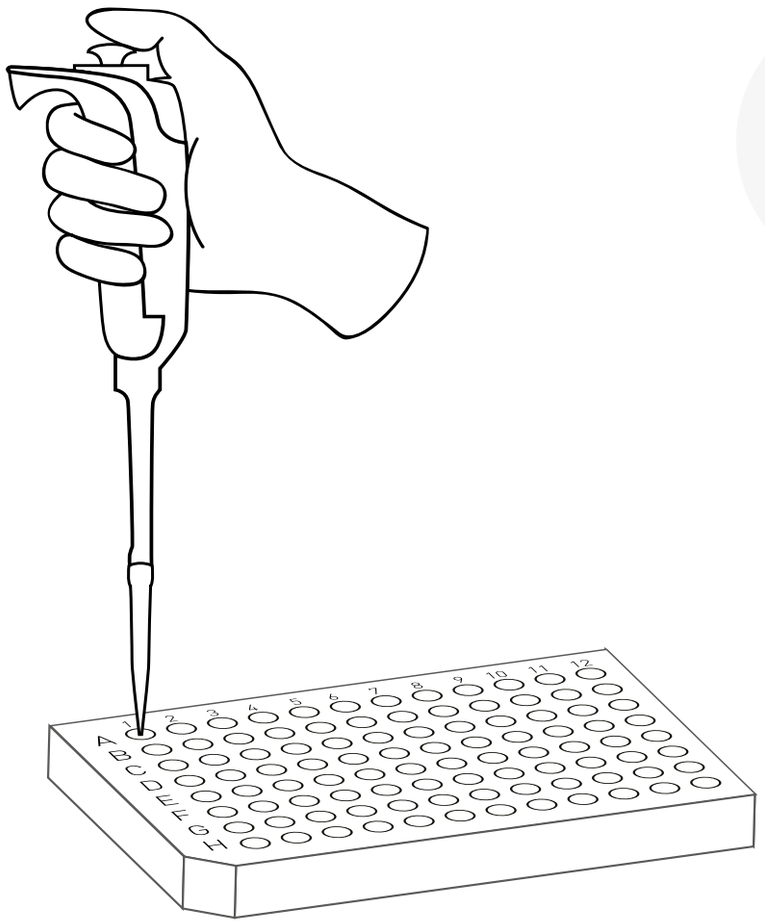
- a **Bioanalyzer** with a High Sensitivity DNA kit *(Agilent)* > ***5b***



Note: Agarose gels and are not recommended as they do not provide sufficient resolution to quantitatively assess the Bioruptor DNA QC results

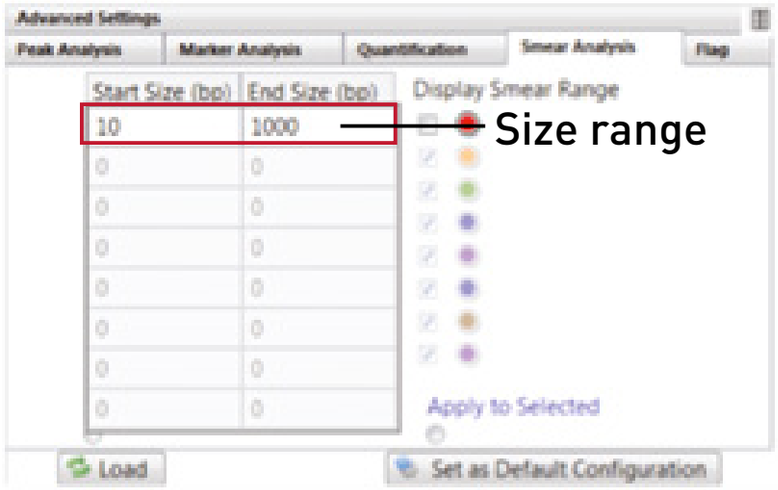
QUALITY CHECK

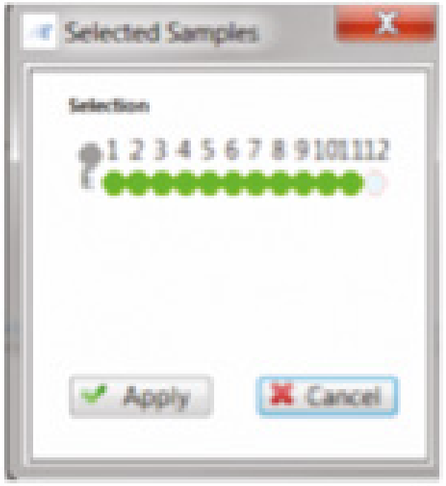
5a **Run 2 µl** per sample on the **Fragment Analyzer™**



Record the average size for each sample (**Xi**) using a smear analysis option with a size range of 10-1000 bp

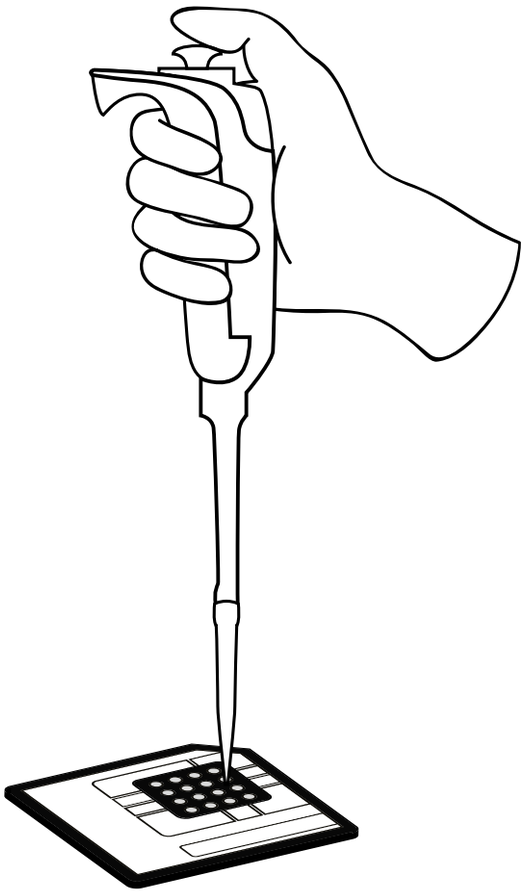
Click on the tools icon (in the bottom corner on the right)



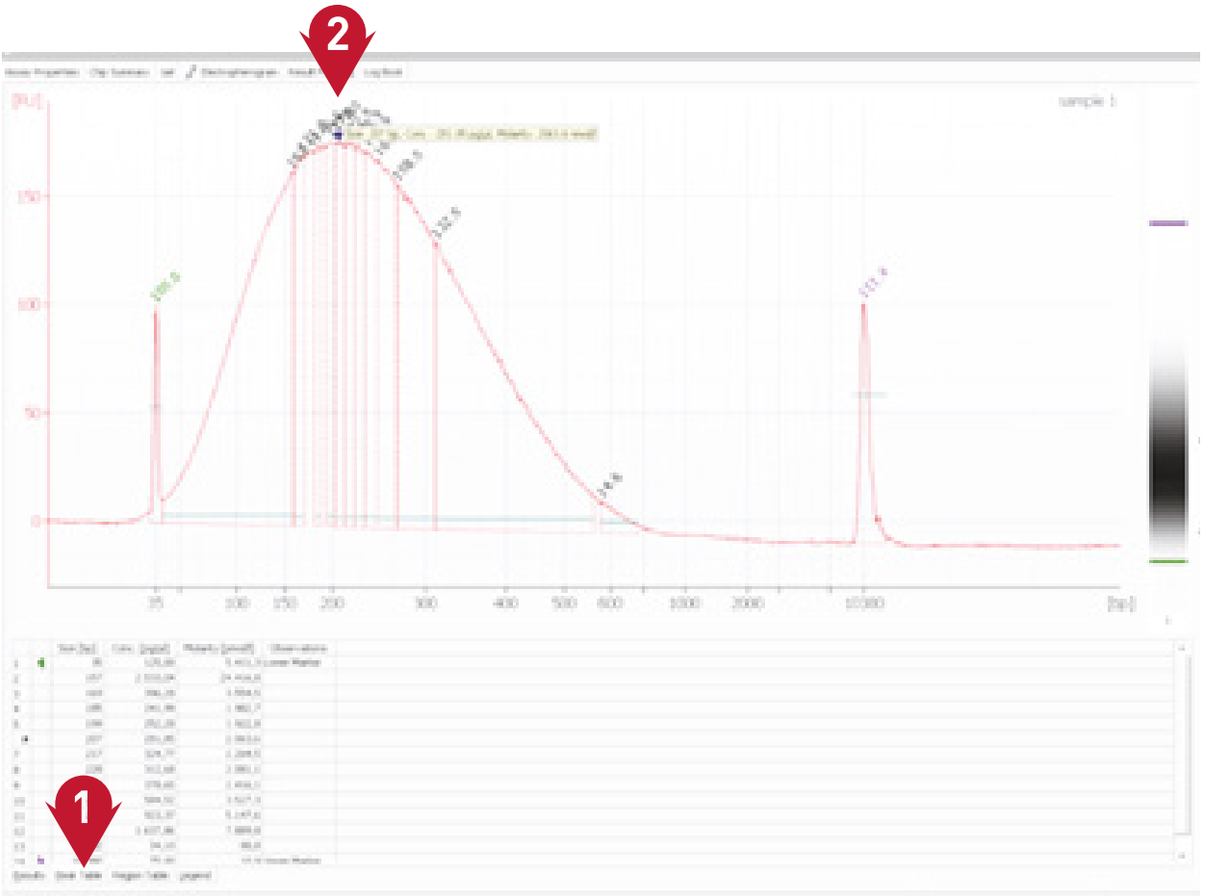


Xi

5b **Run 1 µl** per sample on the **Bioanalyzer**



Record the peak size for each sample (**Xi**) manually as maximum amplitude of the generated electrophoregram curve



1. Select “Peak Table”
2. Point with the mouse the peak maximum; the size value (**Xi**) will appear on the screen.

6 **Use** the **Xi** values for the calculation of:

- mean size (**μ**)
- standard deviation (**σ**)
- coefficient of variation (**%CV= σ/|μ|*100%**)
- an .xls template to facilitate calculations is available here: https://www.diagenode.com/en/documents/diagenode-biorup-tor-dna-qc-kit-analysis-template.

Sonication results are considered as excellent or very good if **μ < 220 bp and CV% < 15%**

Your QC failed or you need help to perform the QC, please contact us at https://www.diagenode.com/en/pages/support

DATA

DATASHEET

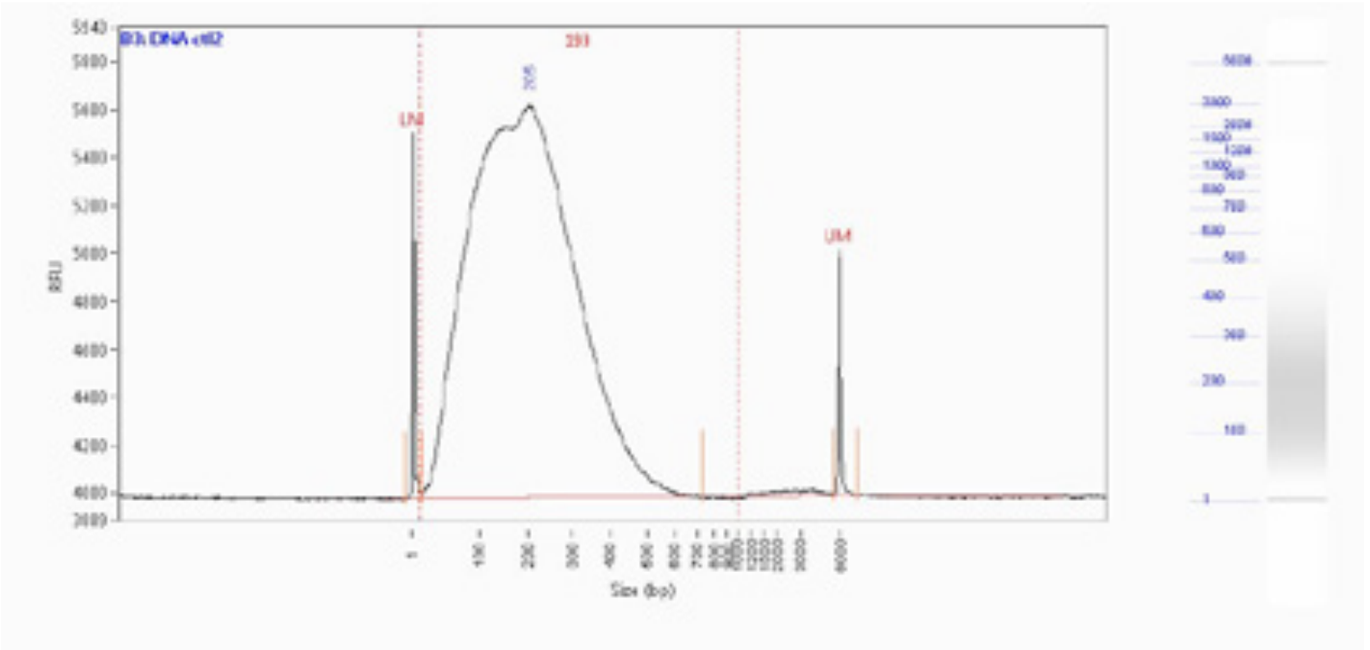
SHEET

DATASHEET

TECHNICAL DATASHEET

Human genomic DNA was sheared using the Bioruptor. After shearing, the DNA was analyzed using 2 different methods:

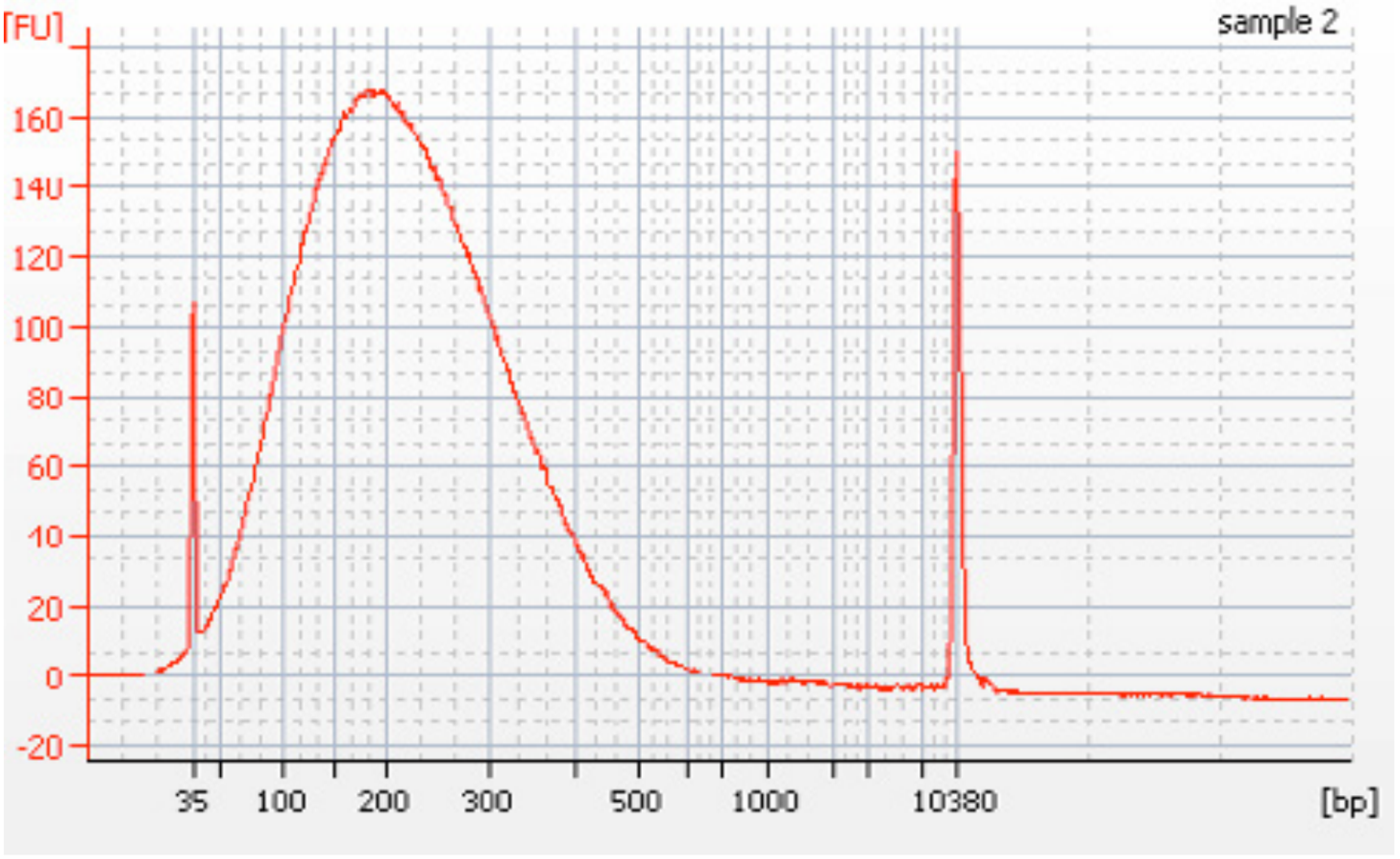
1. Fragment analyzer analysis



The sheared DNA was analyzed on a Fragment Analyzer Automated™ System with a High-sensitivity NGS Fragment Analyses Kit (1 bp-6000 bp) *(Advanced Analytical)*.

Conclusion: a peak at 199 bp is observed.

2. Bioanalyzer analysis



The sheared DNA was analyzed on a Bioanalyzer with a High Sensitivity DNA kit *(Agilent)*.

Conclusion: a peak at 188 bp is observed.

DATASHEET

Test method	Expected results	Result
Fragment Analyzer™	Majority of the fragment lengths in the 200+/-100 bp range	Passed
Bioanalyzer	Majority of the fragment lengths in the 200+/-100 bp range	Passed

This product is in accordance with the expected specifications

Jan Hendrickx
Kit and Antibody Production
Diagenode

August 25, 2016

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