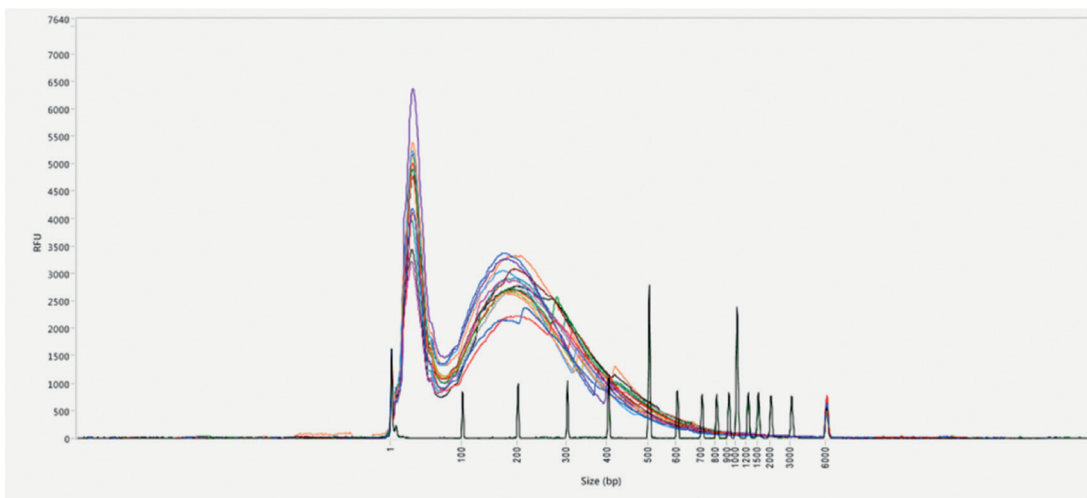
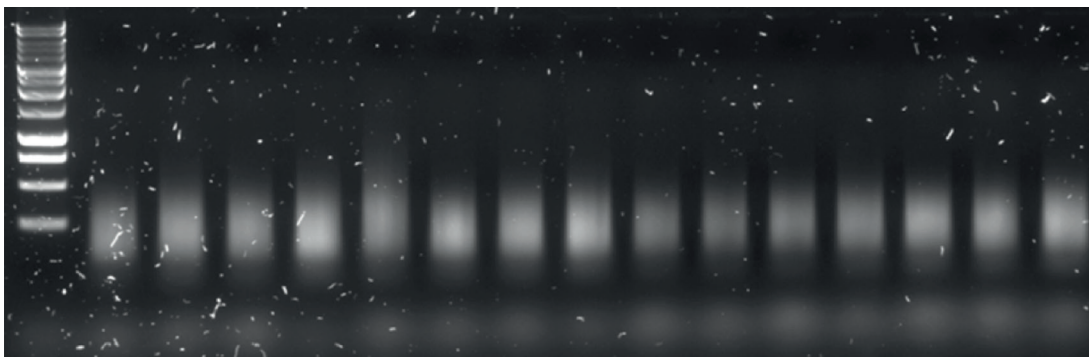


Chromatin shearing with the Bioruptor® Pico, 0.2 ml Bioruptor® Microtubes and the corresponding holder

The first critical step of a successful ChIP experiment is the preparation of sheared chromatin with a suitable fragment range which best represents the biological scenario being investigated. The Bioruptor® Pico ensures that the chromatin is efficiently sheared to an appropriate and consistent fragment size. Bioruptor® shearing occurs in a temperature-controlled environment providing a high quality chromatin with preserved epitopes suitable for ChIP-qPCR and ChIP-seq experiments.

REPRODUCIBLE CHROMATIN SHEARING USING THE 0.2 ML MICROTUBES AND THE BIORUPTOR® PICO



Reproducible chromatin shearing using the 0.2 ml microtubes and the Bioruptor® Pico. *HeLa cells were fixed with formaldehyde and chromatin was prepared accordingly to Diagenode's TrueMicroChIP Kit (Cat. No. C01010130). Samples (50,000 cells in 50 µl) were sonicated for 8 cycles of 30" ON/30" OFF with Bioruptor® Pico. Chromatin was decrosslinked, purified and analyzed by electrophoresis on agarose gel A (1 kb ladder was loaded as the size standard) or by the Fragment Analyzer (Advanced Analytical Technologies).*

RECOMMENDED OPERATING CONDITIONS

Chromatin shearing using the 0.2 ml microtubes for Bioruptor® Pico allows a simultaneous shearing of 16 samples, compatible with a volume range of 20 µl to 100 µl. The total sonication time depends on many factors like cell type, cell density, sample volume, fixation time, concentration of detergent in the shearing buffer, etc. Hence it is important to optimize the sonication conditions for each new experiment. As best practice, choose the shortest sonication time (which will result in a satisfactory ChIP efficiency with the highest recover and lowest background). Avoid over-sonication, as it may lead to a drop of efficiency in ChIP experiments, especially when non-histone proteins are to be evaluated by ChIP.

Sample volume: 20-100 µl.

Note: a volume range of 20-50 µl will require a shorter sonication time than a 60-100 µl sample volume.

Tubes: 0.2 ml microtubes for Bioruptor® Pico (Cat. No. C30010020).

Tube holder: Tube Holder 0.2 ml for Bioruptor® Pico (Cat. No. B01200044) for 16 samples.

Sonication buffer: accordingly to the experimental protocol.

Note: SDS-containing buffer (0.1-1%) sonication buffer is highly recommended for an efficient cell lysis and chromatin shearing.

Sonication cycle: 30 sec ON/30 sec OFF.

Total sonication time: varies. An initial time-course experiment of 5-10-15 sonication cycles 30'' ON/30'' OFF is recommended when starting a new ChIP project using the Bioruptor® Pico.

Please check our chromatin shearing guide at

<https://www.diagenode.com/protocols/bioruptor-pico-chromatin-preparation-guide>

RELATED PRODUCTS:

Product	Cat. No.
Chromatin Shearing Optimization Kit – High SDS (True Micro ChIP Kit)	Cat. No. C01020012
Chromatin Shearing Optimization Kit – Low SDS (iDeal Kit for Histones)	Cat. No. C01020010
Chromatin Shearing Optimization Kit – Low SDS (iDeal Kit for TFs)	Cat. No. C01020013