

# Confidently Profile the Epigenetic Landscape within Archived FFPE Samples using truChIP®

Mapping post-translational modifications (PTMs) of histones and discovering novel protein-DNA interactions to characterize the true *in vivo* epigenetic landscape

Formalin-fixed paraffin-embedded (FFPE) tissues enable researchers to perform retrospective analysis on clinical samples to discover clinically relevant molecular signatures associated with disease. The tissue embedding process has made the isolation of soluble chromatin from FFPE challenging due to limited amounts of material and degradation of epitopes. The Covaris truChIP FFPE Chromatin Shearing Kit was developed to address these challenges encountered to make translational epigenetic discoveries possible.

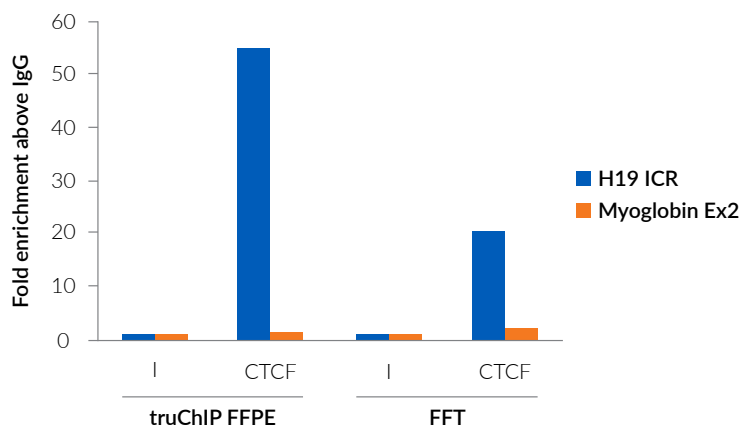
## Isolate High-quality, ChIP Grade Chromatin from Archived Clinical FFPE Tissues

- Streamline the deparaffinization, tissue rehydration, and chromatin shearing steps
- Process samples 3X faster compared to conventional methods, such as FiT-seq and PAT-seq
- Reduce sample-to-sample and batch-to-batch variability found using convention methods

### High-quality Chromatin from FFPE Tissue Samples

- Extract and shear chromatin for ChIP
- Improve yields from tissues mounted on glass slides
- Achieve superior performance with histone modification and transcription factor immunoprecipitations

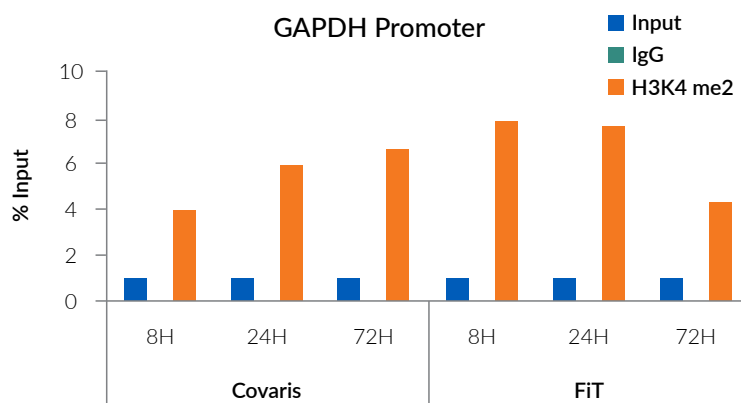
**Figure 1.** ChIP for CTCF was performed from FFPE extracted tissue using truChIP FFPE workflow as well as from fresh frozen tissue (FFT). In each ChIP, 850 ng of chromatin was precipitated using the CTCF antibody or IgG as a negative control. Fold enrichment above IgG control was calculated. Enrichment was assessed at the H19 imprinting control region (ICR) in comparison to a negative control region within Exon 2 of the myoglobin gene.



### Extract Soluble Chromatin Independent of the Fixation Time Used

- Eliminate the need for organic solvents for deparaffinization and tissue rehydration
- Reduce hands on time to isolate chromatin from FFPE tissues
- Perform IP for histone marks and other DNA associated proteins irrespective of the formalin fixation time and tissue type

**Figure 2.** H3K4me2 ChIP was performed for FFPE extracted tissues that were formalin fixed for 8h, 24h, and 72h using the truChIP FFPE workflow (shearing time 15 minutes) in comparison to the FiT-seq. H3K4me2 enrichment was measured at the GAPDH promoter.



**Organic Solvent-free Paraffin Removal and Tissue Rehydration is Enabled by Adaptive Focused Acoustics® (AFA®)**

**Before AFA**

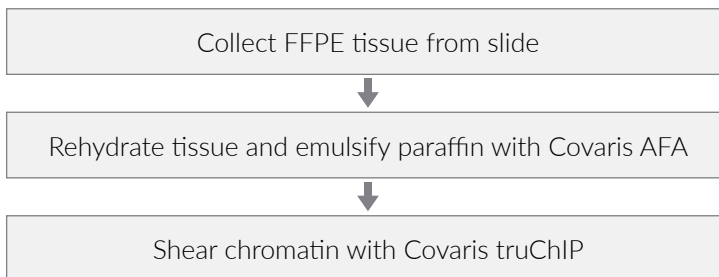
- FFPE Section in buffer

**After AFA**

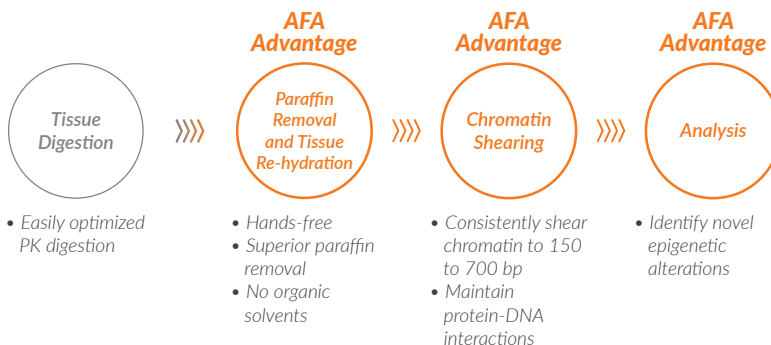
- Deparaffinized sample
- Emulsified paraffin
- Rehydrated sample



**truChIP FFPE Workflow**



**Simple, Standardized Workflow**



Part Number	Product Name	Description
<a href="#">520257</a>	truChIP FFPE Chromatin Shearing Kit	The truChIP FFPE Chromatin Shearing Kit is optimized for the extraction and shearing of chromatin from formalin-fixed paraffin-embedded (FFPE) tissues using Covaris Focused-ultrasonicators. This truChIP kit efficiently isolates high-quality soluble chromatin that can be IP'ed for downstream application. The kit contains enough reagents and consumables to process up to 25 FFPE samples.
<a href="#">500406</a>	Centrifuge and Heat Block microTUBE Adapter	Heat block microTUBE adapters are designed to fit a microTUBE into a heating block designed for 1.5 or 2ml microcentrifuge tubes. It is required for the Proteinase K incubation step. Quantity (10) per each package.

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