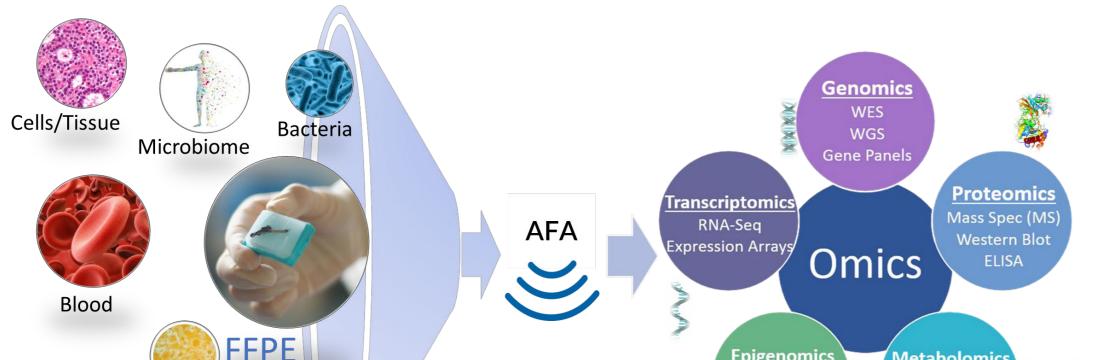


# A Robust and Scalable Workflow for Extraction of DNA, RNA, and Protein from FFPE Tissues

Authors: Angela Garding, Akshay Dhingra, Nicolas Autret, and Martina Werner | Covaris, LLC, Woburn, MA, USA

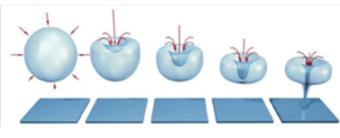
## **AFA in Pre-analytical Sample Prep**



## **AFA Enables Active Paraffin Removal**

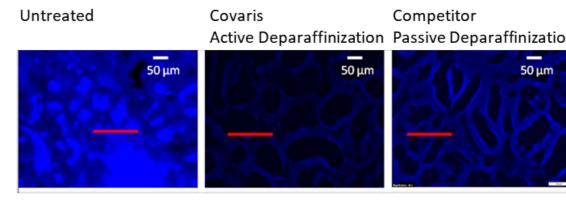
Fast and non-toxic deparaffinization and tissue rehydration





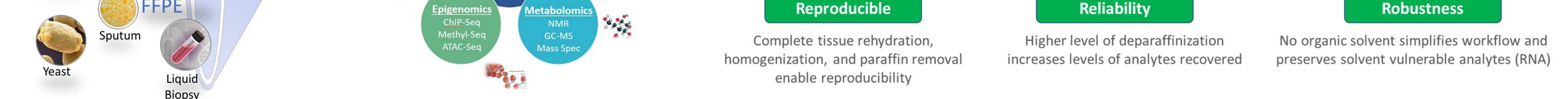


**Active Deparaffinization** 



Cavitation bubbles increase emulsification and paraffin removal without destroying sensitive analytes

Reproducible

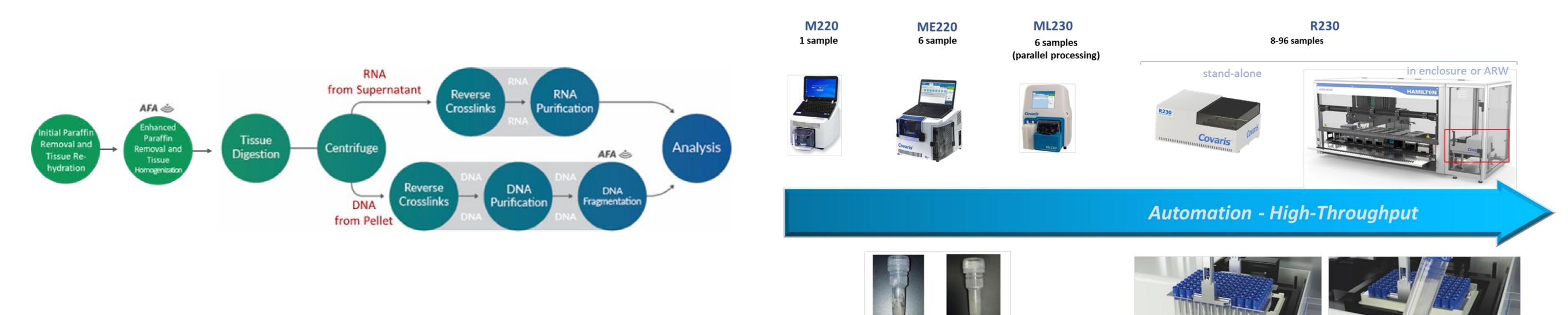


### **Genomics: DNA and RNA Extraction from the Same FFPE Sample**

### A. truXTRAC<sup>®</sup> FFPE SMART Solutions

#### **B.** Focused-ultrasonicators

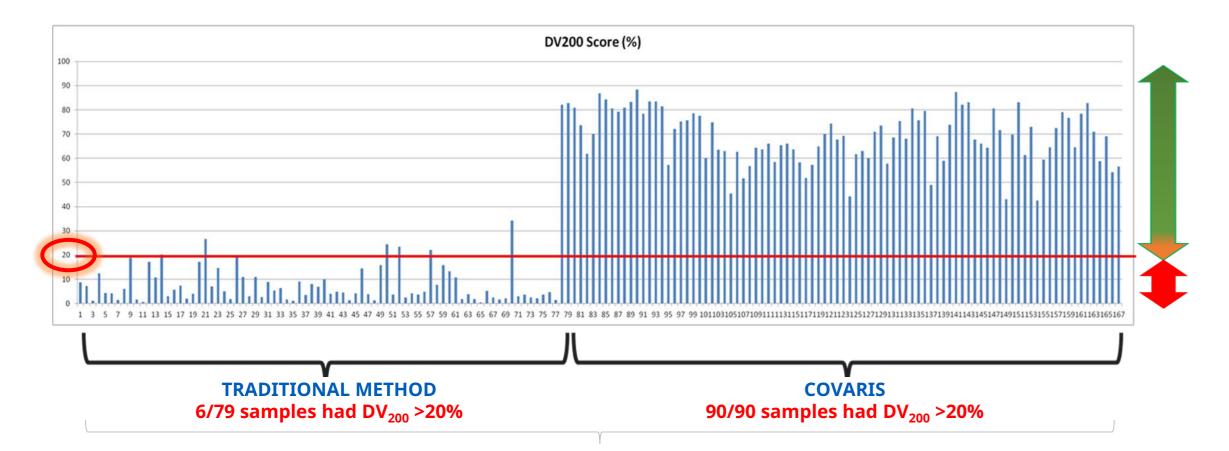
All instruments are suitable for active deparaffinization of FFPE tissue







#### C. Extraction of Higher Quality RNA from FFPE Samples

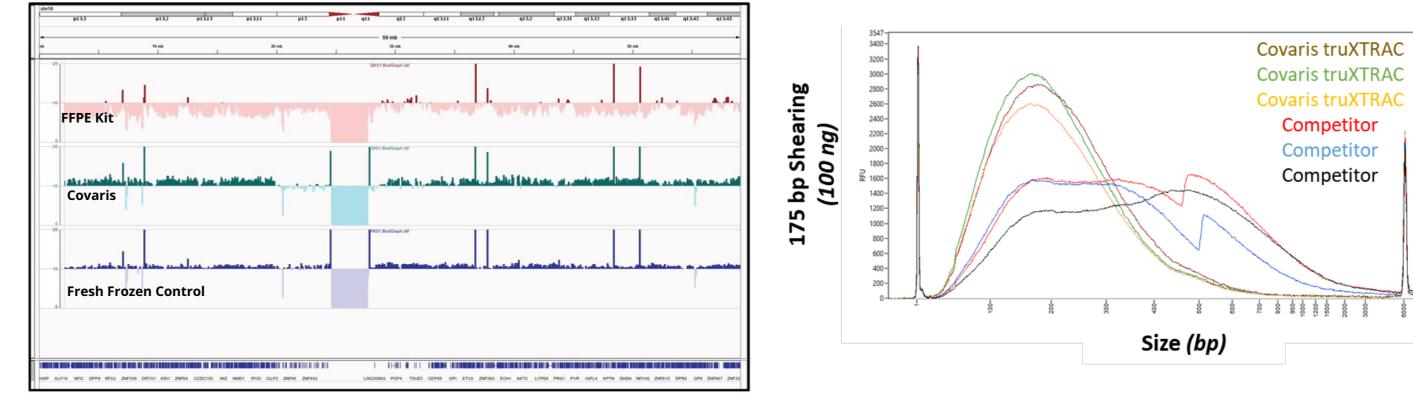


#### From less than 8% to 100% with Covaris

Illumina recommends DV<sub>200</sub> >30%. DV<sub>200</sub> is the percent of RNA extracted of length greater than 200 nt, a key Illumina NGS metric

"When I first saw these results I said: There is absolutely no way this is real!" – Shawn Levy, Hudson Alpha, ABRF 2019

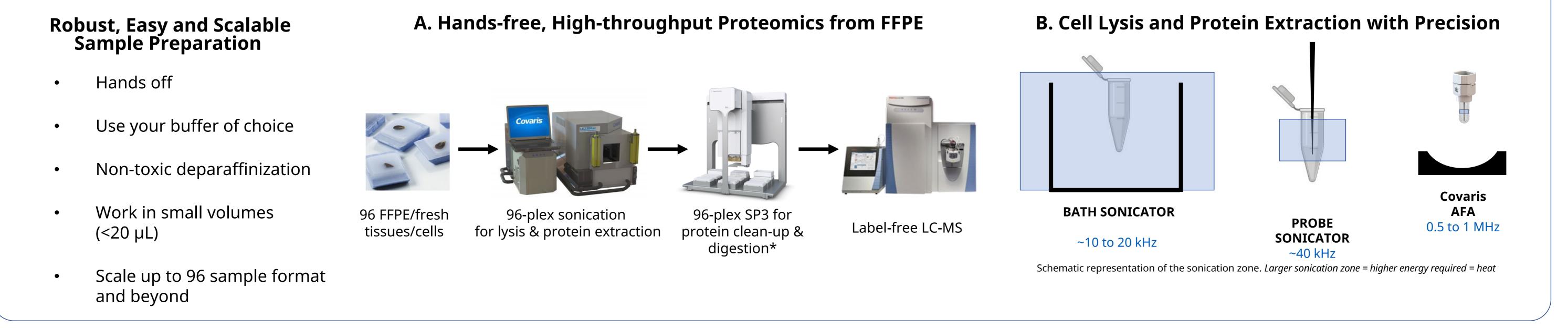
#### D. Extraction of Higher Quality DNA from FFPE Samples



Whole Genome Sequencing Results (Chromosome 19 Coverage) Comparison Covaris truXTRAC, Competitor and fresh frozen tissue DNA Traces: post-shearing

"Overall higher yields versus competitor, with a lower drop-out rate" – Hudson Alpha, 2019

### **Proteomics: MassSpec from FFPE samples**



Conflict of Interest Statement: All authors are employees of Covaris, LLC. The authors declare no competing financial interest. US & APAC: +1 781.932.3959 | EU: +44 (0)845 872 0100 | Service and Instrumentation: techsupport@covaris.com | Solutions: applicationsupport@covaris.com | US: | EU/UK Customer Service: | APAC Customer Service: Information subject to change without notice. For research use only. Not for use in diagnostic procedures. 2023© Covaris, LLC