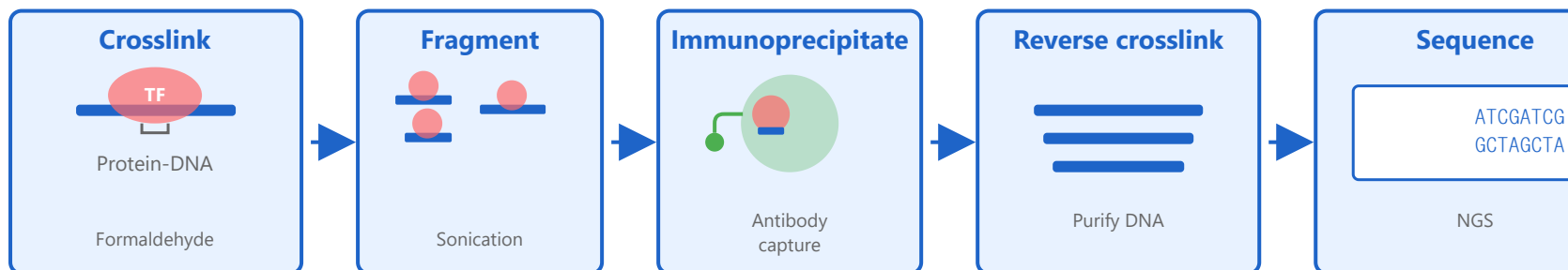


ChIP-seq (Chromatin Immunoprecipitation Sequencing)

Overview

- Identify protein-DNA binding sites genome-wide
- Study transcription factor binding
- Map histone modifications (epigenetics)
- Understand gene regulation mechanisms

ChIP-seq Workflow



Common Targets

Analysis Tools

- Transcription factors (TFs)
- H3K4me3 (active promoters)
- H3K27ac (active enhancers)
- H3K27me3 (repression)

- MACS2 (peak calling)
- deepTools (visualization)
- Homer (motif discovery)
- DiffBind (differential binding)

Requires high-quality antibodies and input control samples