Find the Right ChIP Products to Suit Your Specific Needs

Because Chromatin Immunoprecipitation (ChIP) is widely used to study gene regulation and link specific states of chromatin to individual loci in a cell, Active Motif offers a complete selection of validated reagents, instruments and kits to help streamline each step of the ChIP workflow (see opposite page). Whether you are performing ChIP for the first time or are an expert in need of a specialized ChIP protocol and reagents, Active Motif has the right products to meet your needs. Provided below are brief descriptions for some our ChIP-IT® Kits and ChIP products to help guide you in determining which ones are best suited for your specific application. Please visit www.activemotif.com/chip for complete information on our extensive ChIP product line.

Need ChIP results in a hurry?

ChIP-IT Express was the first ChIP kit to use magnetic beads, which yield lower background and streamline the ChIP protocol by eliminating many steps required in conventional agarose bead-based protocols. Washing and elution steps are also faster because centrifugation is replaced by magnetic pull-down. The result is higher sensitivity, a reduction in the input sample amount to 100,000 cells per assay, and a condensed protocol that can be completed in 1 day. ChIP-IT Express has a proven track record of success with over 500 publications and counting.

Transcription factor ChIP

Performing ChIP of transcription factors is a challenge because of their low abundance in cells and low or transient affinity to chromatin. **ChIP-IT High Sensitivity** was specifically designed to perform ChIP of transcription factors or similar low-abundance targets. Although the protocol is lengthier than magnetic bead methods, as little as 1,000 cell equivalents for highly abundant target proteins, or 50,000 cell equivalents for low abundance proteins, can be used for each ChIP reaction.

High-resolution ChIP for mapping TF binding sites

The **ChIP-exo Kit** provides a high-resolution method to map transcription factor binding sites genome-wide. This modified ChIP-Seq approach utilizes exonuclease-mediated digestion of DNA to remove non-cross-linked DNA. This enables identification of protein-DNA binding sites at a resolution of 20-95 base pairs, making it ideal for precise mapping of transcription factor binding sites and studying the effects of SNPs or mutations.

Ready-to-use ChIP columns

Got your own ChIP protocol? For researchers who routinely perform ChIP with their own optimized protocols, Active Motif offers pre-packed, ready-to-use, low background **Protein G Agarose Columns**. These columns contain the same high-affinity protein G agarose beads included in the ChIP-IT High Sensitivity Kit (above). The columns offer a faster solution to centrifugation and magnetic separation methods, and result in better yield and reproducibility between samples because no material is lost.

No sonicator? No problem!

ChIP-IT Express Enzymatic was the first kit to offer the option of shearing chromatin by enzymatic digestion instead of by sonication. This user-friendly kit is identical to ChIP-IT Express with the exception of its chromatin preparation reagents. Preparation of chromatin by enzymatic shearing simplifies optimization of fragment size, and the mild enzymatic treatment preserves chromatin and epitope integrity. Enzymatic shearing is a great choice for users who do not routinely perform ChIP and either do not own a sonicator or are not proficient in its use.

Sonication products for more consistent shearing

For those who want to use sonication to achieve more consistent results from chromatin preparation, Active Motif offers both the **EpiShear™ Probe Sonicator** for direct sonication of samples and the **Q800R® Sonicator** for multi-sample preparation of chromatin. These are the same sonicators that our own ChIP Assay Experts™ routinely use to prepare chromatin for ChIP.

Headed straight into Next Generation Sequencing?

ChIP-IT ChIP-Seq is designed for performing ChIP-Seq analysis on the Illumina® sequencing platforms. It combines the ChIP-IT High Sensitivity Kit (left), the ChIP-IT qPCR Analysis Kit for validation of ChIP DNA, and a set of library construction reagents suitable for the preparation of 10 Next Generation sequencing libraries.

Study two binding events on the same DNA locus

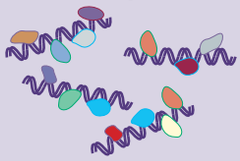
Re-ChIP-IT takes advantage of the same magnetic bead-based ChIP method developed for ChIP-IT Express. However, Re-ChIP-IT was designed for sequential ChIP, in which two ChIP reactions using different antibodies are performed in series on the same sample. This makes it possible to simultaneously assay for two unique binding events at the same genomic region of interest.

ChIP to study non-coding RNA interactions

Non-coding RNAs play important roles in chromatin structure and transcriptional silencing. **RNA ChIP-IT** uses our magnetic-bead based ChIP method to enable the study of RNA-protein interactions in chromatin. All components are optimized to recover RNA from ChIP for downstream analysis.

Products to Streamline the ChIP Assay Workflow

Chromatin Preparation

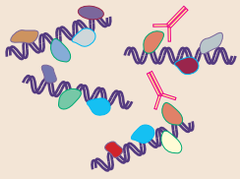


Chromatin Shearing
- EpiShear™ Sonicators
- ChIP-IT® Sonication & Enzymatic Shearing Kits
- Dounce Homogenizers

Pre-Made Chromatin
- Ready-to-ChIP Chromatin

ChIP Antibodies
- ChIP & ChIP-Seq validated antibodies
- ChIP Antibody Validation Services
- MODified™ Histone Peptide Array

Chromatin Immunoprecipitation

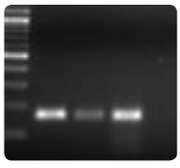


ChIP Kits
- ChIP-IT® Express
- ChIP-IT® High Sensitivity
- ChIP-IT® ChIP-Seq
- ChIP-exo
- ChIP-IT® FFPE
- ChIP-IT® PBMC
- Re-ChIP-IT®
- RNA ChIP-IT®

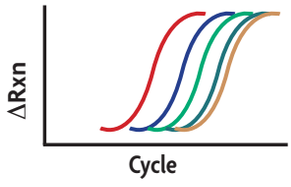
ChIP DNA Clean-up
- Chromatin IP DNA Purification Kit

Protein G Beads
- Protein G Agarose Columns
- Protein G Magnetic Beads

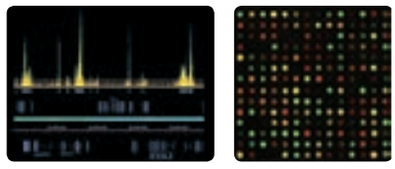
Downstream Analysis



PCR Analysis
- ChIP-IT® Control Kits

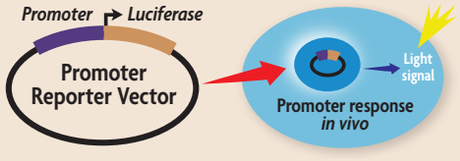


qPCR Analysis
- ChIP-IT® qPCR Analysis Kit
- ChIP Control qPCR Primer Sets



Epigenetic Services
- FactorPath™, TranscriptionPath™ and HistonePath™ ChIP-Seq Services

Functional Validation



Luciferase Reporter Assays
- LightSwitch™ Promoter Reporter GoClone™ Collections
- LightSwitch™ Stable Cell Lines
- LightSwitch™ Luciferase Assays

Gene Regulation Services
- Custom Cloning & Mutagenesis
- Pathway Screening
- Sequence Variant Assays

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