

EpiDyne™

Nucleosome Remodeling Substrates for High-Throughput Screening

Fully defined nucleosome substrates engineered for chromatin remodeling studies

Unprecedented access to disease-relevant ATP-dependent chromatin remodeling complexes

| hSWI/SNF Protein | Types of Cancer |
|--|--|
| hSNF5 (INI1, BAF47, SMARCB1) | Malignant rhabdoid tumors Medulloblastoma, CML Choroid plexus carcinomas |
| BRG1 (SMARCA4, BAF190, hSNF2) | Multiple carcinomas Prostate cancer, Oral cancers Non-small cell lung cancer |
| BRM (SMARCA2, BAF190B, SNF2L2) | Multiple carcinomas Non-small cell lung cancer |

Table 1: The mutation or misregulation of human SWI/SNF family ATPases is associated with multiple cancer types.

Compatible with Multiple Assay Formats:

- Restriction Enzyme Accessibility
- DAM methyltransferase
- HTS Fluorescence-based readouts
FRET, FP, etc. (coming soon)

Useful for:

- Inhibitor screening and development
- Structure-Activity Relationship assays
- Biochemical profiling of ATPase family proteins

Customized templates and services are available*
Inquire at EpiCypher.com

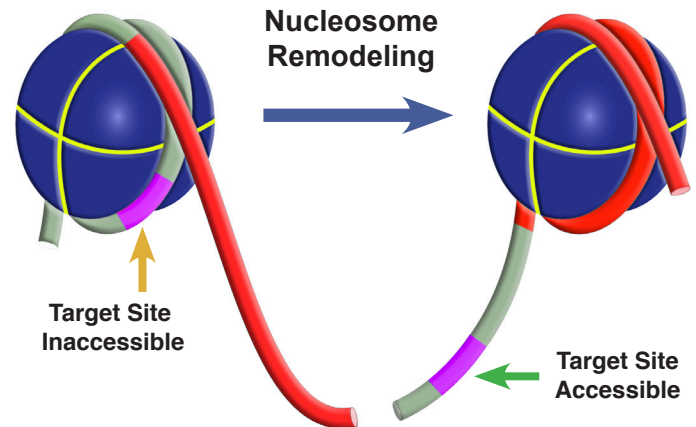


Figure 1: EpiDyne Nucleosome Remodeling Substrates consist of a human histone octamer wrapped with a strong nucleosome positioning sequence (Widom 601) shielding a target motif (purple box). The target motif is either a restriction enzyme recognition site or a DAM methylation sequence. Subsequent to the action of an ATP-dependent remodeler (e.g. RSC or another SWI/SNF ATPase), the target site is exposed, whereupon it can either be cut by a restriction enzyme or methylated by DAM. The latter method is immediately compatible with HTS applications.

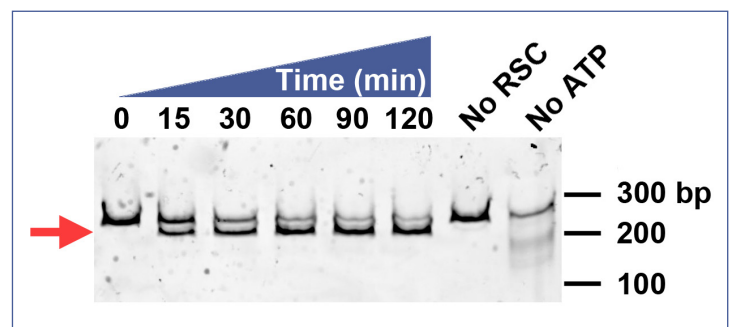


Figure 2: ATP-dependent nucleosome remodeling reaction in the presence of DpnII. EpiDyne Nucleosome Remodeling Substrates were incubated for the time indicated with or without (No RSC) the ATP-dependent chromatin remodeler RSC in the presence of ATP (or No ATP as indicated) and the restriction enzyme DpnII. Samples were then resolved on a polyacrylamide gel and stained with ethidium bromide. The red arrow indicates the fragment cleaved from the nucleosomal DNA subsequent to remodeling.