

## Open or Closed

Detect a Gene's **Chromatin State**

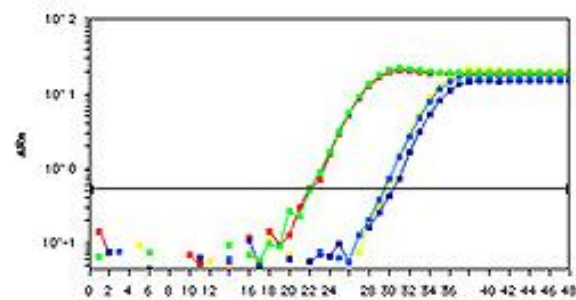
View Kit ▶



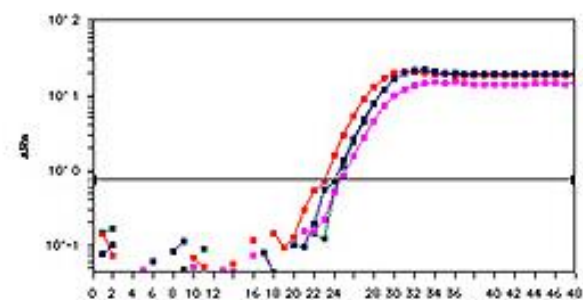
It's a beautiful thing! Identify gene-specific chromatin states or nucleosome/transcription factor positioning in only 1 hour and 30 minutes using our [EpiQuik™ Chromatin Accessibility Assay Kit](#).

### Advantages and features:

- **Extremely fast** -- assess chromatin structure in cultured or frozen cells in only 1 hour and 30 minutes
- **Quantitative** -- generates quantitative chromatin structure information for multiple genomic elements
- **Flexible** -- allows single-reaction or high throughput multi-reaction
- **Preserves chromatin structure** -- fast process minimizes nuclear damage and loss of disassociated chromatin components
- **Control primers included** -- to analyze chromatin accessibility and validate enzymatic digestion

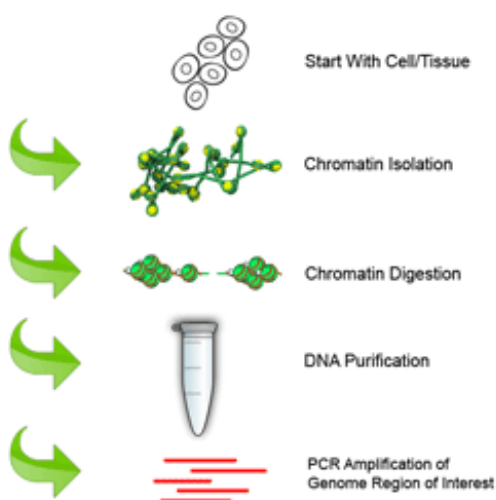


(a) Chromatin accessibility of opened chromatin (euchromatin).



(b) Chromatin accessibility of closed chromatin (heterochromatin).

▲ Amplification of proximal promoter regions for the constitutively expressed target gene in MDA-231 cells using (a) positive / (b) negative control primers.



### Background Information

The accessibility of regulatory elements in chromatin is critical for many aspects of gene regulation. Nucleosomes positioned over regulatory elements inhibit access of transcription factors to DNA. To elucidate the role of the interactions between chromatin and transcription factors, it is crucial to determine chromatin accessibility through mapping of the nucleosome positioning along the genome. In general, the more condensed the chromatin, the more difficult it is for transcription factors and other DNA binding proteins to access DNA and carry out their tasks. The more accessible the DNA, the more likely surrounding genes are actively transcribed. The presence (or the absence) of nucleosomes directly or indirectly affects a variety of other cellular and metabolic processes such as recombination, replication, centromere formation, and DNA repair.

▲ Fig. 1. Schematic procedure of the EpiQuik™ Chromatin Accessibility Assay Kit.