

Abstract Submitted
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**Relating Promoter Sequences to the Proteins that Bind to Them:
A Comparison Study.** KIMBERLY GLASS, University of Maryland/National
Institute of Health — Chromatin Immunoprecipitation (ChIP-on-ChIP) microarray
data reveals that the proteins H3K9dimethyl and RNA-Polymerase II are exclusive
regarding their binding to the promoter region of genes. When comparing the base
pair sequences of the promoters that bind to Pol2 versus H3K9, striking differences
appear. The mononucleotides have fundamentally different behaviors in each group.
In addition, motifs that cluster before the transcriptional start site also generally
have a strong enrichment in one group compared to the other. Using this knowledge
a model can be developed that allows one to calculate a probability that a promoter
will bind to either H3K9 or Pol2 based on its base pair sequence.

Kimberly Glass
University of Maryland/National Institute of Health

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