ABSTRACT

TITLE:	Mutations at the H2B:H4 Interface of the Yeast Nucleosome Alter Expression of Telomeric ADE2 Gene
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ABSTRACT: Two independent yeast genetic screens—one that addressed H4 mutations that increase telomeric ADE2 silencing and one that addressed H2B mutations that decrease telomeric ADE2 silencing—revealed that the interface within the nucleosome between H2B and H4 plays a role in telomeric gene expression. To further characterize this interface, we conducted a mutational analysis that altered H4 and H2B residues protruding into the interface. The mutations we analyzed are surprisingly subtle—substitutions of Arg with Lys, His with Tyr and Glu with Asp or Tyr with Ser. In some cases, introducing a bulkier side chain appeared to decrease ADE2-TEL expression, whereas introducing smaller side chains appeared to increase ADE2-TEL expression. These results show that the H2B:H4 interface plays a role in telomeric gene expression and may provide insight into nucleosome dynamics during transcription.