ABSTRACT

TITLE:	Quantification of the ADE2-TEL Gene Expression in S. Cervisiae Mutants
AUTHOR(S):	Roser, Claire; Stephenson, Cody ; Aronoff, Matt; Smith, Dr. Christine
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ABSTRACT: The goal of our work is to develop a method to provide a quantitative analysis of gene transcription. Amelia Burns and Dr. Smith recently found—using a red/white color assay— that mutations at the nucleosome interface between histones H2B and H4 result in altered levels of transcription of a telomeric (TEL) ADE2 gene in yeast. The ADE2-TEL red/white assay can be successfully used to screen for the effects of single amino acid mutations on ADE2-TEL expression, but it fails to answer the question of "how much" with regard to expression level. Toward this end, we evaluated three different yeast genetic variations—the wild-type yeast strain (1371), one mutant (T71S) that possesses a histone H4 mutation that decreases ADE2-TEL expression and one mutant (H75F) that possesses a histone H4 mutation that increases ADE2-TEL expression. We performed a series of quantitative PCR reactions in an attempt to quantify ADE2-TEL expression levels. Although we were not able to achieve quantifiable results, we made significant progress in establishing a PCR protocol that can be used for future work.