

P021 Mechanism of Gene Expression in the Tca2 Retrotransposon
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Retrotransposons are mobile genetic elements related to retroviruses. They replicate *via* an RNA intermediate, and integrate themselves into the host genome. Tca2 is the only known active retrotransposon in the yeast *Candida albicans*. It has two open reading frames, *gag* and *pol*, separated by an in-frame stop codon, and followed after 8 nucleotides by a potential RNA pseudoknot sequence. It has been suggested this stop codon is the subject of efficient translational readthrough to generate *gag-pol* fusion protein. A 250 nucleotide sequence from the *gag-pol* junction of Tca2 was cloned between *lacZ* and luciferase reporter genes to assay *pol* expression in the yeast *S. cerevisiae*. Apparent stop codon readthrough of greater than 100% was measured. This 'readthrough' was resistant to the effect of eRF1 release factor mutants, and to the insertion of extra, in-frame, stop codons upstream of the *gag-pol* junction. This and other data indicate that Tca2 is not expressing the *pol* ORF via a stop codon readthrough mechanism, but instead using an internal promoter located at the *gag-pol* junction. The activity of this promoter in the host *Candida albicans* will be discussed. This is the first demonstration of this mode of *pol* expression in a retroelement.