

**P017** A bioinformatic approach to identify novel +1 frameshift recoding events in *Saccharomyces cerevisiae*

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In *S. cerevisiae* there are several examples of programmed translational +1 frameshifting on specific slippery heptameric sequences in the mRNA. These include Ty1 retrotransposons and ABP-140 (CUU\_AGG\_C), antizyme (GCG\_UGA\_C) and EST3 (CUU\_AGU\_U). A previous study identified additional heptameric sequences, which were underrepresented in the *S. cerevisiae* genome and proved to stimulate significant +1 translational frameshifting.

The purpose of this study is to identify new utilised cases of +1 frameshifting in *S. cerevisiae*. Firstly, potential overlapping ORFs were identified. Overlaps where ORF2 is in the +1 frame were searched for a number of potential +1 frameshifting sequences. The choice of sequences was based on experimental data and similarity to known +1 frameshifting motifs. Initial analysis identified over 210 potential cases. Further screening identified potential candidates by searching for conservation of ORF1 and ORF2 across several other yeast species. Potential new cases of +1 frameshifting are discussed.