

**P035** Testing the assembly of the small ribosomal subunit using group I intron-containing rRNA

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More than one thousand group I introns are distributed in a non-random fashion on the rRNA primary, secondary and tertiary structure of the small (SSU) and the large (LSU) ribosomal subunits of many protists and fungi. In 3-D, they appear remarkably clustered on the interface surfaces of SSU and LSU. The evolutionary forces that directed them to these locations are however unclear. We are addressing why group I introns are tolerated in only some regions of the ribosome and have inserted the self-splicing *Anabaena* tRNA-Leu group I intron into different sites in the *E. coli* SSU rRNA gene to test the positional effects on intron catalysis, and ribosome function. Results show that the *Anabaena* intron, when inserted into a region in SSU rRNA that is frequently populated by introns in nature, is efficiently removed from the rRNA transcript and supports the assembly of functional SSU particles. Interestingly, a null mutant of this intron insertion, when mixed with ribosomal proteins also reconstitutes into functional particles that sediment at approximately 32S.