The yeast *SUF3* frameshift suppressor encodes a mutant glycine tRNA^{ccc}

Michael D. Mendenhall* and Michael R. Culbertson

Laboratories of Genetics and Molecular Biology, University of Wisconsin, Madison, WI 53706, USA

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RNA-DNA hybridization and mutant rescue experiments indicated that pFW27, a clone of the *Saccharomyces cerevisiae* gene *SPT3* obtained from F. Winston (1), also carried the *suf3* frameshift suppressor gene (2). *suf3* lies approximately 1.5 kb 5' to *SPT3* (3). The two genes are divergently transcribed. The sequence of the wild type *suf3* gene and its surrounding sequences is shown below. The region from base pairs 361 to 432 could be folded into the cloverleaf pattern typically found for tRNAs. The predicted anticodon, 5'-CCC-3', indicates that this tRNA translates glycine codons. The coding sequence for *suf3* differs at four positions from the sequence found for *suf5* (see accompanying paper). Two of these differences result in an unusual A • C "base-pair" in the aminoacyl acceptor arm of *suf3*. The *SUF3-1* mutant allele was also sequenced and found to contain one additional cytidine inserted between bases 394 and 396 resulting in a 5'-CCCC-3' four base anticodon.

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1-50  CAATTGCGATCCGAATGGTGAAGGGTTCACAGCCTATTTAATGATATATC
51-100 ATAAGGACGGTAATAAAGTCTTAAAAGAGTAGTTTTTGAGCTTTTCTTT
101-150 CCCCCTTCAAGTAATTATTAGAAATAAAAAGTAGTGTTTAAAGACGACA
151-200 TTTTGGAGCATGCACTGTATAACCAGGTTCAAAAAAATTCGCGCTGCTAT
201-250 TGTTTTCTTTATTTTGAAGATGTGAGAAAAGTCTCATATCTAGTGAGCTT
251-300 CAGTCTGTTTTTAGATGTAGTTAGCAATTACTATTTTAGGTATTTCTTTG
301-350 CGCGGTTACGGTCTCAAGAATTATATTACCACAAAACCTATGTAAGCTA
351-400 GATCTTCTTAGCGAAAGTGGTTCAGTGGTTAGAAATTCATGCTTCCCAAGC
401-450 ATGGGGCCCGGTTTCGATTCCTCGGCTTCCGCATTTTTTGTGCAATTTTTT
451-500 TTTATACTCTATTTTCAAGTTAAAGTTTTTCAAAGGCGAAGTATGTTTAC
501-550 GCTAAATCAAGATATTTGGATGAGCAATCCACTAATTGCGTACTTCAACA
551-563 GACACACAAGATC
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* Present address: Department of Molecular Biology, Research Institute of Scripps Clinic, 10666 North Torrey Pines Rd, La Jolla, CA 92037, USA

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